

JVC

SERVICE MANUAL

MICRO COMPONENT SYSTEM

UX-G6/FS-G6



Area Suffix (UX-G6)

UB Hong Kong
 UP Korea
 U Other Areas

Area Suffix (FS-G6)

J U.S.A./ Canada

We will separately issue the parts list of J version.



Unit composition

Contents	Model Name
STEREO AMPLIFIER	AX-UXG6
CD / TUNER	XT-UXG6
CASSETTE DECK	TD-UXG6
SPEAKER SYSTEM	SP-UXG6

< ATTENTION >

When this model is repaired, a part of unit of "UX-G6/FS-G6" is necessary.

(Please refer to page 1-5)

Contents

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Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (▲) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

5. Leakage current check (Electrical shock hazard testing)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

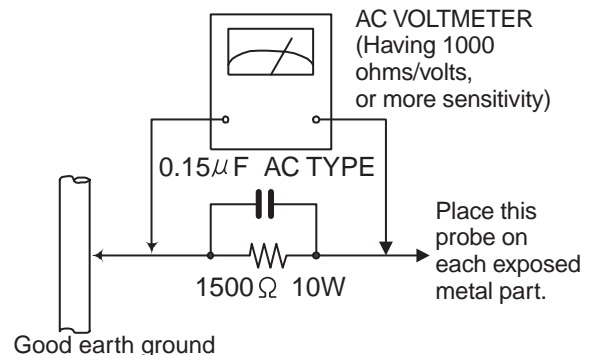
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

● Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

CAUTION Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

Important for laser products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



CAUTION Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstrålning ved åbning, når sikkerhedsbryteren er avsluttet. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

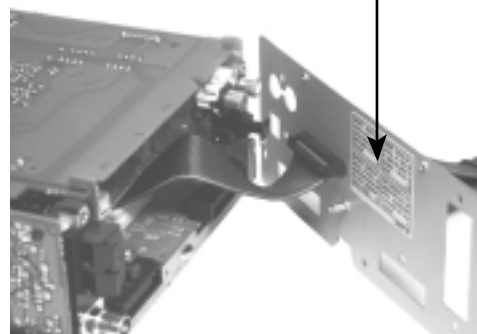
DANGER : Invisible laser radiation when open and interlock or defeated.
AVOID DIRECT EXPOSURE TO BEAM (e)

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (d)

CLASS 1
LASER PRODUCT



Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.1. Grounding to prevent damage by static electricity

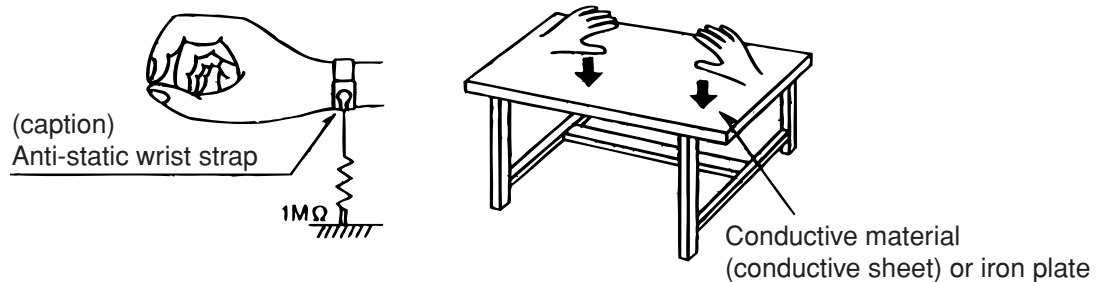
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players. Be careful to use proper grounding in the area where repairs are being performed.

1.1.1. Ground the workbench

1. Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

1.1.2. Ground yourself

1. Use an anti-static wrist strap to release any static electricity built up in your body.



1.1.3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
2. Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

1.2. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
3. Handle the flexible cable carefully as it may break when subjected to strong force.
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it

Attention at repair reception

< ATTENTION >

When this model is repaired, a part of unit of "UX-G6/FS-G6" is necessary.

A necessary unit is described to rear panel.

Please keep the unit from the customer together when you repair this model.

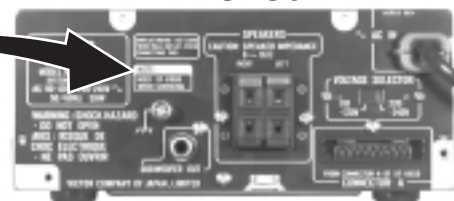
Unit necessary for repair

XT-UXG6

NOTE:

**NEED & XT-UXG6
WHEN SERVICING**

AX-UXG6



REAR SIDE

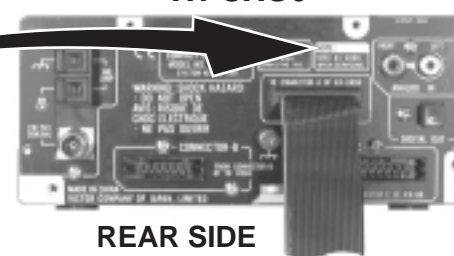
Unit necessary for repair

AX-UXG6

NOTE:

**NEED AX-UXG6
WHEN SERVICING**

XT-UXG6



REAR SIDE

Unit necessary for repair

**AX-UXG6
XT-UXG6**

NOTE:

**NEED AX-UXG6
& XT-UXG6
WHEN SERVICING**

TD-UXG6



REAR SIDE

AX-UXG6

Disassembly method (AX-UXG6)

■Removing the top cover (See Fig.1)

1. Remove the two screws A and the four screws B attaching the top cover.
2. Remove the top cover from behind in the direction of the arrow while pulling the sides outward.

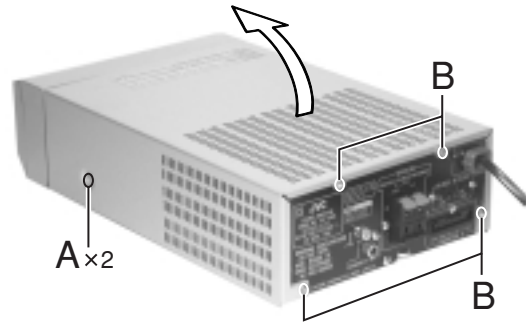


Fig. 1

■Removing the front panel assembly

(See Fig.2 to 5)

1. Pull out the lower part of the front panel assembly manually as shown in Fig.2 and 3.
2. Remove the two screws C with collars attaching the front panel assembly.
3. Remove the front panel assembly downward along the front sub panel rails as shown in Fig.4 and 5.

ATTENTION: Do not lose the two collars of the part a when removing the front panel assembly.

4. Disconnect the card wire extending from the upper part of the front panel assembly.
(When reattaching the front panel assembly, fit the parts "a" on both sides of the front panel assembly to the grooves of the front sub panel rails and move the assembly upward along the rails.)

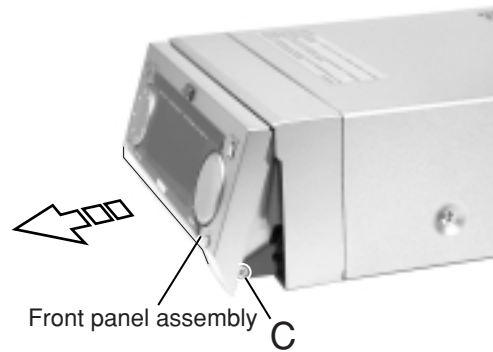


Fig. 2

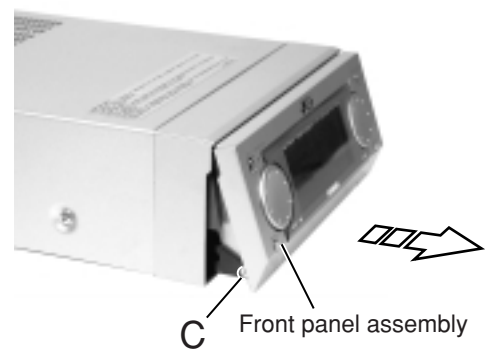


Fig. 3

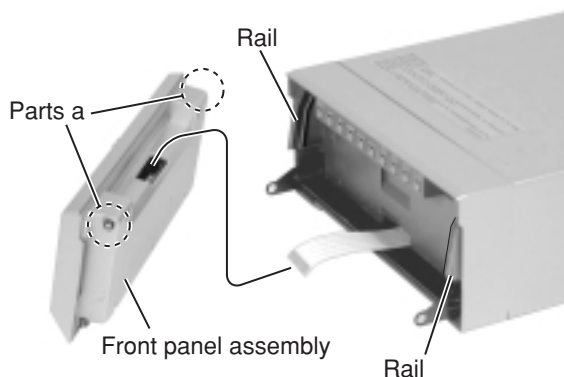


Fig. 5

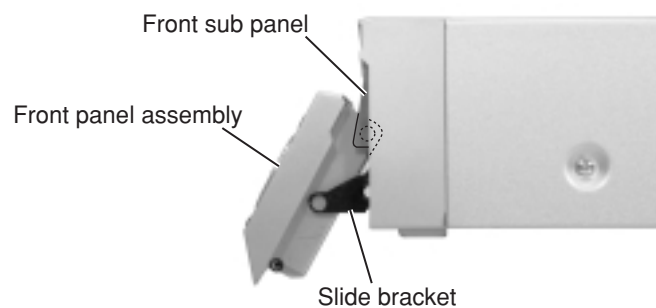


Fig. 4

■ Removing the front sub panel assembly

(See Fig.6 to 8)

- Prior to performing the following procedure, remove the top cover and the front panel assembly.
1. Disconnect the card wire from connector CN704 on the back of the front sub panel assembly.
 2. Remove the two screws D on the bottom of the body.
 3. Release the joint "b" on the bottom and the two joints "c" on both sides of the body, and remove the front sub panel assembly toward the front.

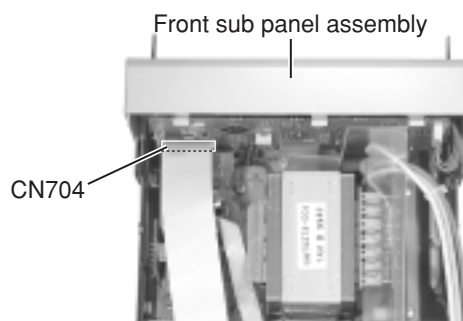


Fig. 6

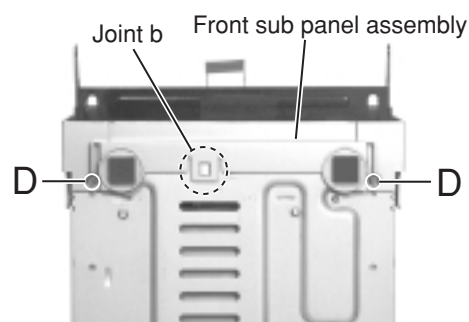


Fig. 7

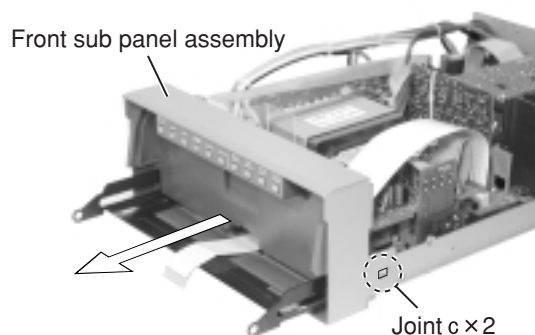


Fig. 8

■ Removing the rear panel and the voltage selector (See Fig.9)

- Prior to performing the following procedure, remove the top cover.
1. Remove the cord stopper on the rear panel while moving it in the direction of the arrow.
 2. Remove the two screws E attaching the voltage selector on the rear panel.
(The voltage selector can be removed without removing the rear panel.)
 3. Remove the five screws F attaching the rear panel and release the two joints "d" on both sides while moving the rear panel upward.

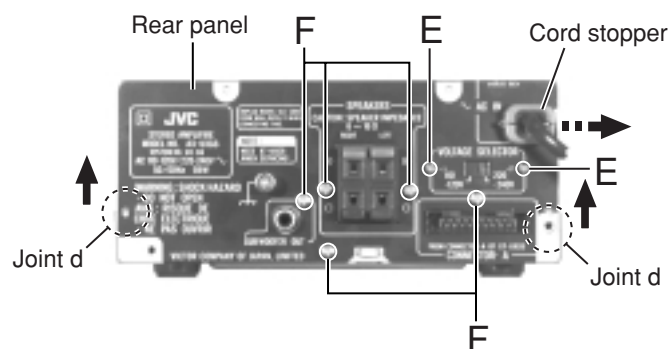


Fig. 9

■Removing the regulator board

(See Fig.10)

- Prior to performing the following procedure, remove the top cover.
1. Disconnect the card wire from connector CN908 on the main board.
 2. Disconnect the harness from connector CN906 on the main board.
 3. Remove the two screws G attaching the regulator board.

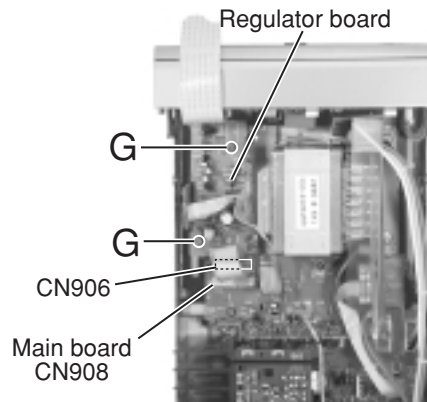


Fig. 10

■Removing the transformer assembly

(See Fig.11)

- Prior to performing the following procedure, remove the top cover.
1. Disconnect the harness from connector CN904, CN905 and CN903 on the main board.
 2. Remove the four screws H attaching the transformer assembly.
 3. Remove the cord stopper and the voltage selector as shown in Fig.9.

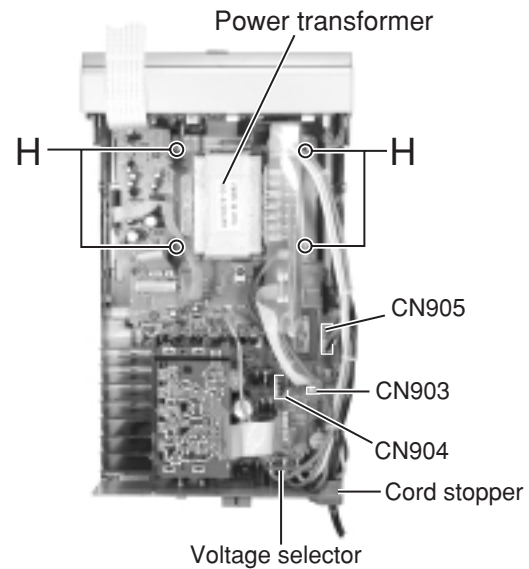


Fig. 11

(If necessary, unsolder the soldered point and cut off the belt fixing the harness.)

■Removing the main board and the heat sink

(See Fig.11 to 18)

- Prior to performing the following procedure, remove the top cover and the rear cover.
1. Disconnect the harness or card wire from connector CN903, CN904, CN905, CN906, CN907 and CN908 on the main board.
 2. Remove the two screws I attaching the main board and the screw J attaching the heat sink.
 3. Remove the screw K attaching the heat sink on the bottom of the body.

The main board will come off along with the heat sink.

ATTENTION: When reattaching, make sure that the part "f" micro-switch on the main board is correctly attached to the elbowed slide bracket.

(When removing the heat sink.)

4. Disconnect the harness from connector CN910 on the main board.
5. Remove the screw L and the four screws M attaching the heat sink on the main board.
6. Remove the seven screws N attaching the amplifier board.

(When removing the sub board from the main board.)

7. Disconnect the harness fixed to the part "e" on the main board.

Disconnect the sub board from connector CN911 on the main board.

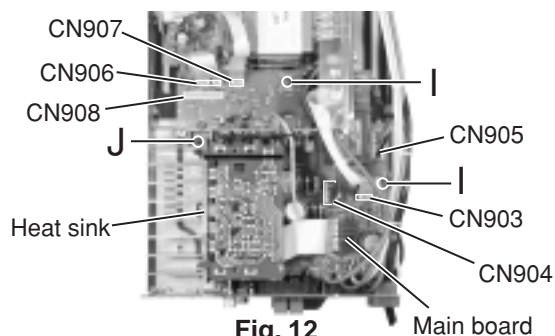


Fig. 12

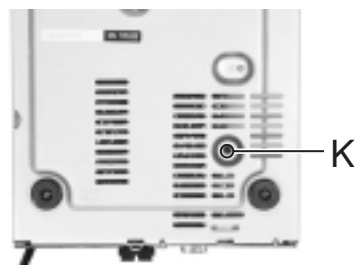


Fig. 13

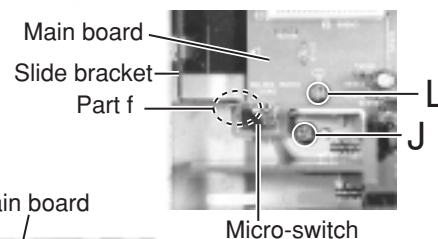


Fig. 14

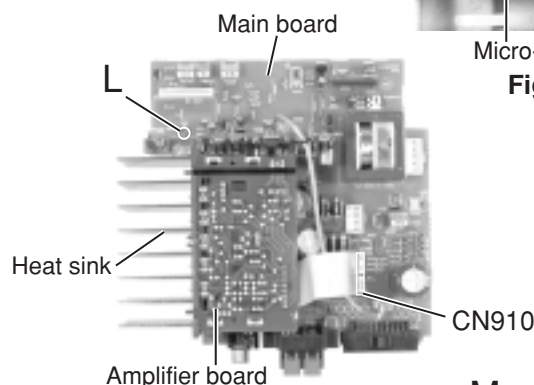


Fig. 15

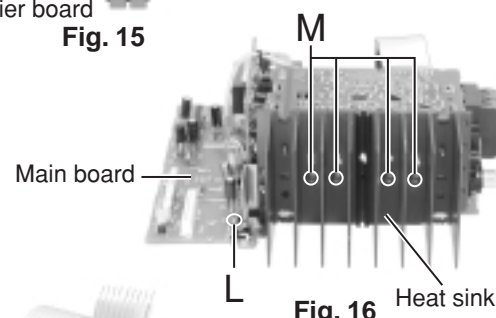


Fig. 16

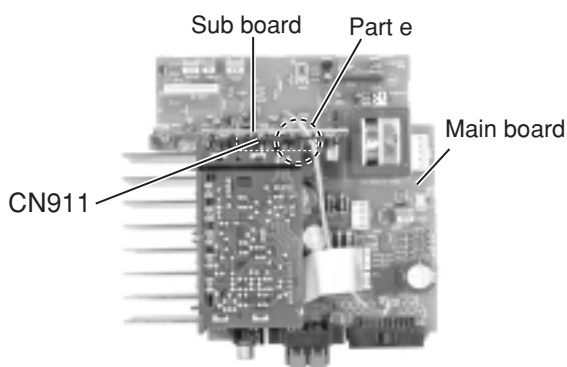


Fig. 18

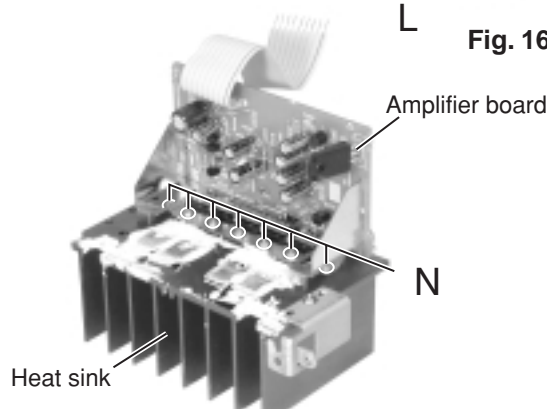


Fig. 17

■Removing the slide gear motor assembly

(See Fig.19 to 21)

- Prior to performing the following procedure, remove the top cover and the regulator board .
1. Disconnect the harness from connector CN907 on the main board.
 2. Remove the two screws O attaching the slide gear motor assembly.
 3. Remove the belt from the motor pulley.
 4. Remove the two screws P and the screw Q attaching the motor assembly.

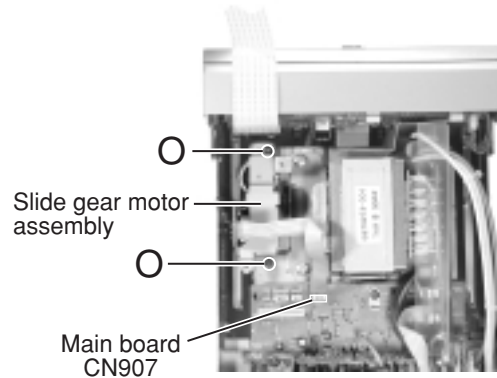


Fig. 19

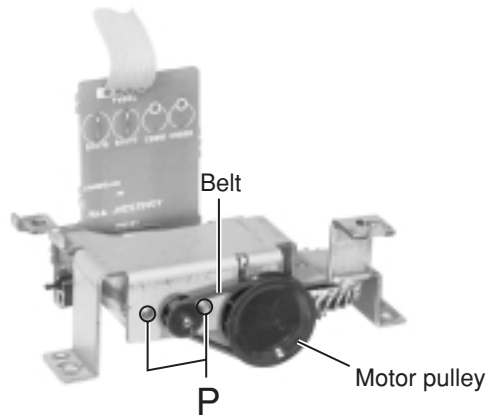


Fig. 20

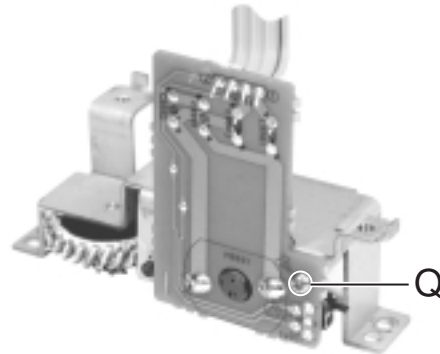


Fig. 21

<Front panel assembly>

■ Removing the front board.

(See Fig.22 to 24)

- Prior to performing the following procedure, remove the top cover and the front panel assembly.
1. Remove the seven screws R attaching the front panel cover on the back of the front panel assembly.
 2. Remove the four screws S attaching the front board.
 3. The multi-jog dial and the volume dial on the front panel assembly also comes off when removing the front board.

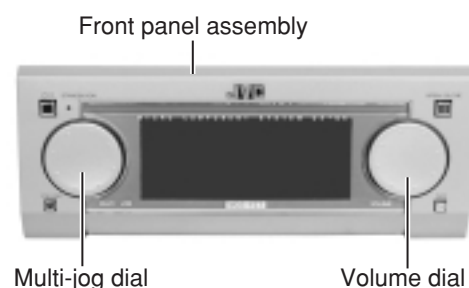


Fig. 22

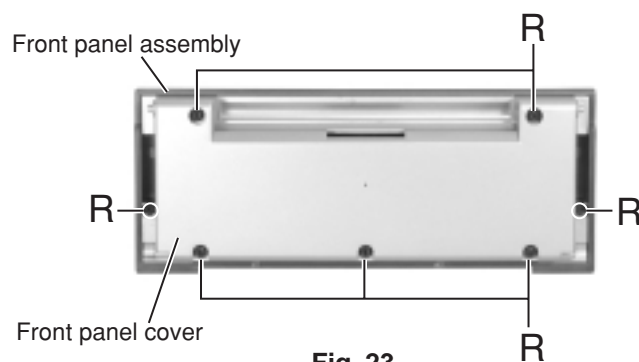


Fig. 23

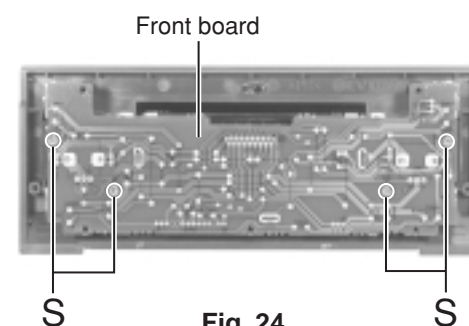


Fig. 24

<Front sub panel assembly>

■ Removing the system control board/operation switch board

(See Fig.25 and 26)

- Prior to performing the following procedure, remove the top cover, the front panel assembly and the front sub panel assembly.
1. Disconnect the harness from connector CN710 on the system control board.
 2. Remove the five screws T attaching the system control board.
 3. Remove the four screws U attaching the operation switch board.

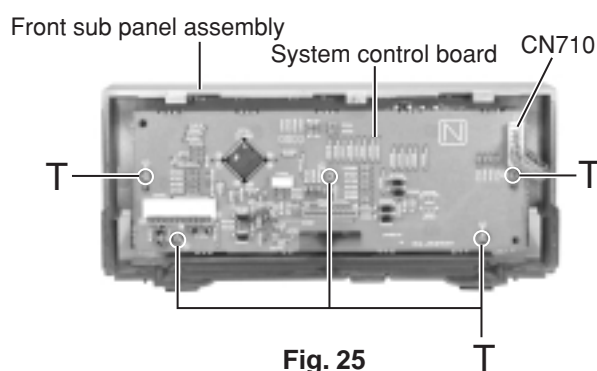


Fig. 25

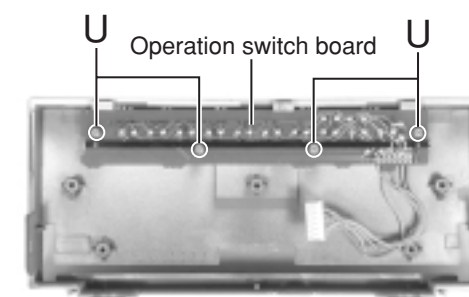
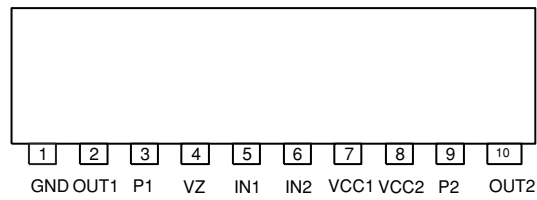


Fig. 26

Description of major ICs

■LB1641 (IC901) : DC Motor driver

1. Pin Layout



2. Pin Functions

Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake

■UPD780023 (IC701) : System control

1.Pin layout

64 ~ 49
1 48
2 3
16 33
17 ~ 32

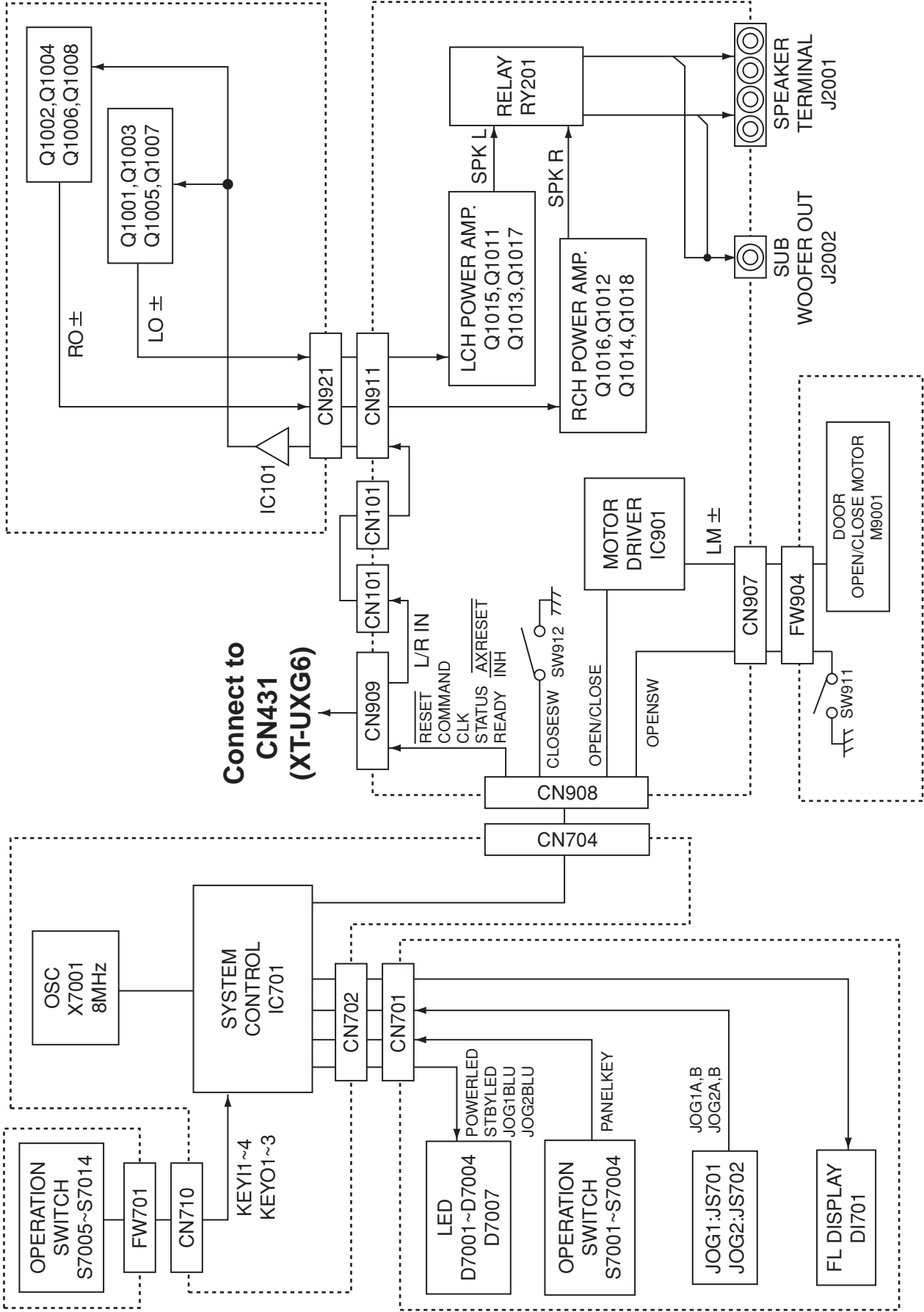
2.Key matrix

	KEYO1	KEYO2	KEYO3
KEYI1	◀	CLOCK/TIMER	TITLE/EDIT
KEYI2	▶	SET	DISPLAY/CHARA.
KEYI3	PLAYMODE	CANCEL	ENTER
KEYI4	RECMODE	——	——

3.Pin function

Pin No.	Symbol	I/O	Function
1,2	JOG1A,B	I	Rotary encoder input from JOG1(JS701)
3,4	JOG2A,B	I	Rotary encoder input from JOG2(JS702)
5	CLOSE	O	Front panel close control signal output to IC901
6	OPEN	O	Front panel open control signal output to IC901
7	CLOSESW	I	Front panel close switch detection terminal from SW912
8	OPENSX	I	Front panel open switch detection terminal from SW911
9	VSS0	-	Connect to GND
10	VDD0	-	Power supply
11		-	Non connect
12	FLOFF	O	FL OFF output (At Eco mode)
13	FLBK	O	FL driver I/F (variable by dimmer)
14	FLLAT	O	FL driver I/F (latch)
15		-	Non connect
16	FLSOUT	O	FL driver I/F
17	FLSLK	O	FL driver I/F
18	COMMAND	I	System micom I/F to XT-UXG6
19	STATUS	O	Status signal output (System micom I/F to XT-UXG6)
20	CLK	I	Clock signal input (System micom I/F to XT-UXG6)
21	READY	I	Ready input (System micom I/F to XT-UXG6)
22	P.ON	O	Power ON control output H:Power ON
23	SMUTE	O	System mute
24	VDD1	-	Power supply
25	AVSS	-	Connect to GND
26	PRT	I	Speaker protector
27	DLOCK	I	Panel lock : 95h~00h(200ms)
28~32		-	Connect to GND
33	PANELKEY	I	Key input (S7001~S7004)
34	AVREF	-	Power supply +5V (Standard AD)
35	AVDD	-	Power supply +5V (Connect to Vdd)
36	RESET	I	Reset input
37	XT2	-	Non connect
38	XT1	-	Connect to GND
39	VPP	-	Connect to GND
40,41	X2,X1	I/O	Oscillation terminal (8MHz)
42	VSS1	-	Connect to GND
43~46	KEYI1~4	I	Key matrix input terminal
47~49	KEYO0~3	O	Key matrix output terminal
50~59		-	Connect to GND
60	POWERLED	O	Power ON LED control terminal H:Lighting
61	STBYLED	O	Power OFF LED control terminal H:Lighting
62	LEDDIM	O	LED dimmer control L:It is dark.
63	JOG1BLU	O	LED control for JOG1(JS701) Lighting when power ON, Blinking when operating
64	JOG2BLU	O	LED control for JOG2(JS702) Lighting when power ON, Blinking when operating

Block diagram (AX-UXG6)



XT-UXG6

Disassembly method (XT-UXG6)

■Removing the top cover (See Fig.1)

1. Remove the two screws A and the four screws B attaching the top cover. Remove the top cover in the direction of the arrow while pulling it.

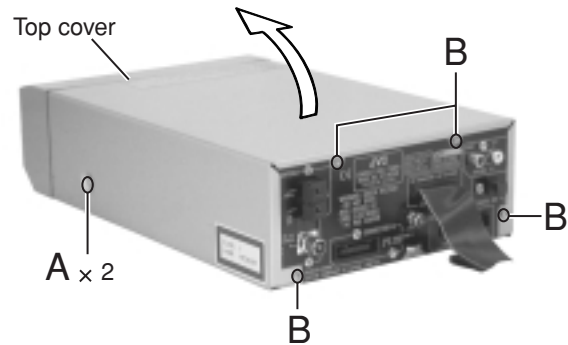


Fig. 1

■Removing the front panel assembly

(See Fig.2 to 4)

- Prior to performing the following procedure, remove the top cover.
1. Cut the tie band fixing the harness on the side of the body. Remove the screw C and the harness on the side of the analog in/digital out board. Disconnect the harness from connector CN451.
 2. Disconnect the harness from connector CN501 on the system control board.
 3. Remove the three screws D on the bottom of the body.
 4. Release the joint "a" on the bottom and the joints "b" on both sides of the body respectively.

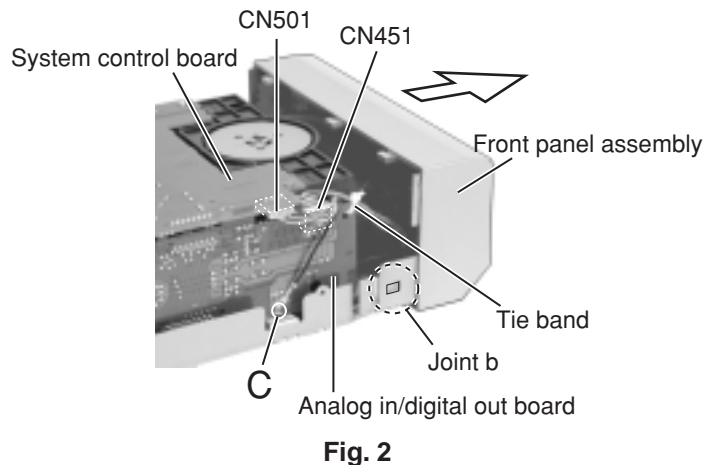


Fig. 2

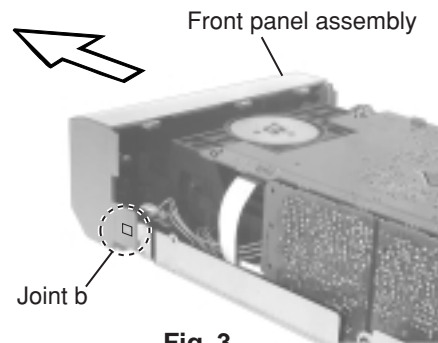


Fig. 3

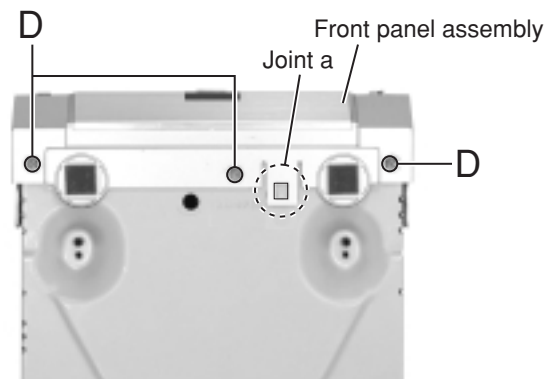


Fig. 4

■Removing the front panel assembly

(See Fig.5 and 6)

- Prior to performing the following procedure, remove the top cover.
1. Remove the seven screws E attaching the rear panel on the back of the body and release the two joints "c" on both sides while moving the rear panel upward.
 2. Disconnect the harness from connector CN431 on the main & CD servo board.
(When disconnecting the harness from the rear panel, unhook the upper and lower four hooks of the wire stopper on the back of the rear panel and pull out the harness outward.)

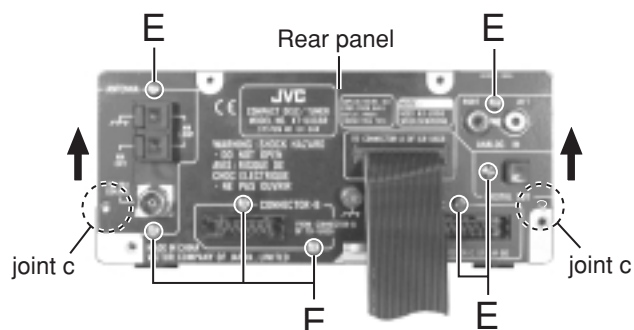


Fig. 5

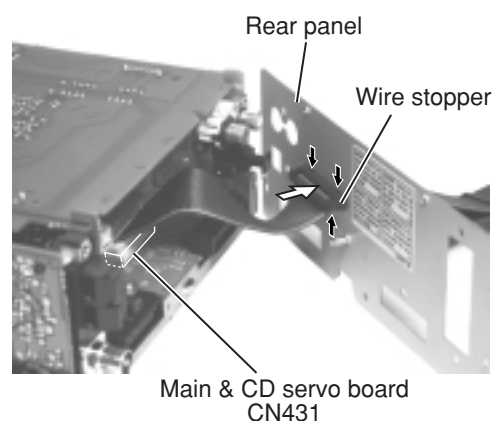


Fig. 6

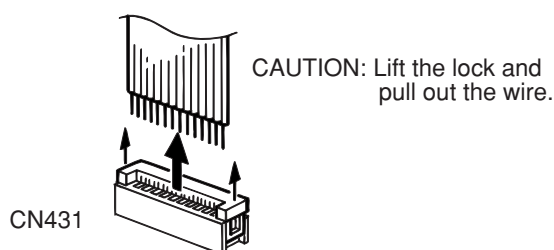


Fig.6-1

■Removing the system control board

(See Fig.7)

- Prior to performing the following procedure, remove the top cover and the rear panel.
1. Disconnect the harness from connector CN501 and CN506 on the system control board respectively.
 2. Remove the two screws F attaching the system control board.
 3. Disconnect connector CN502, CN503, CN504 and CN507 on the system control board while pulling out them.

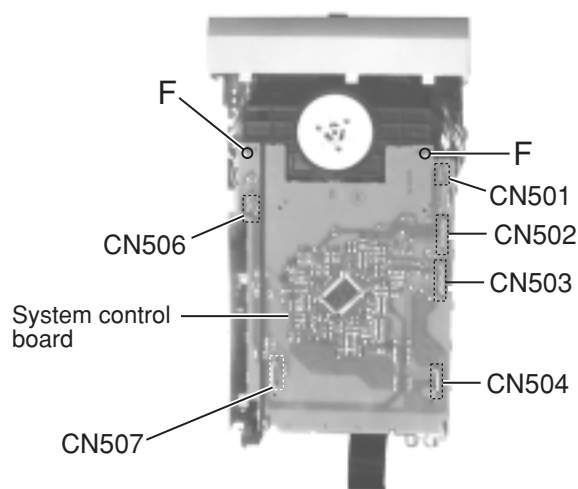


Fig. 7

■Removing the analog in/digital out board and the relay board (See Fig.8 to 10)

- Prior to performing the following procedure, remove the top cover, the rear panel and the system control board.
1. Cut the tie band fixing the harness on the side of the body. Disconnect the harness from connector CN451 on the analog in/digital out board and remove the screw G attaching the analog in/digital out board.
 2. Disconnect connector CN455, CN456 and CN457 on the analog in/digital out board from the connector on the main & CD servo board.
 3. Disconnect connector CN443 on the relay board from the connector on the main & CD servo board.

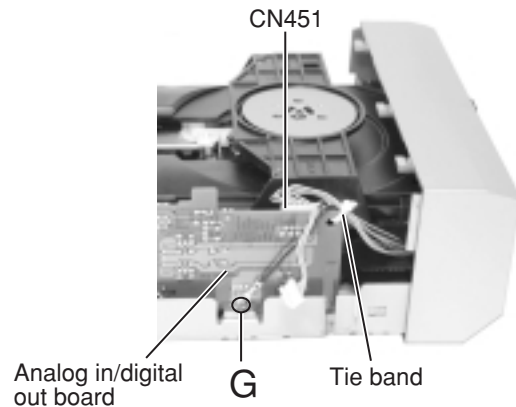


Fig. 8

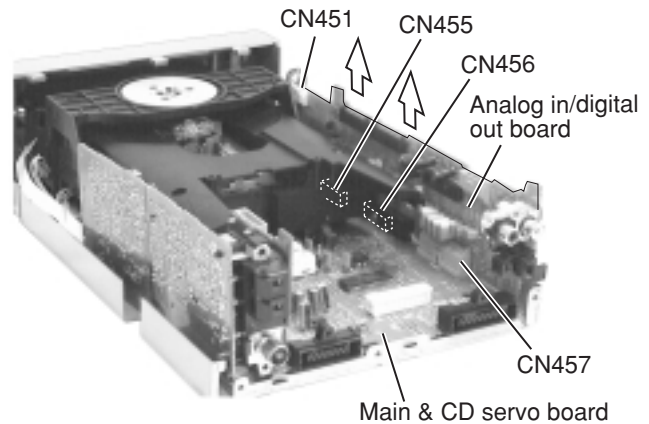


Fig. 9

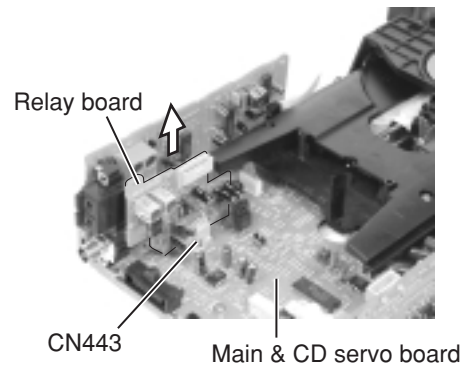


Fig. 10

■Removing the tuner board (See Fig.11)

- Prior to performing the following procedure, remove the top cover and the rear panel.
1. Disconnect CN506 on the system control board.
 2. Remove the screw H attaching the tuner board.

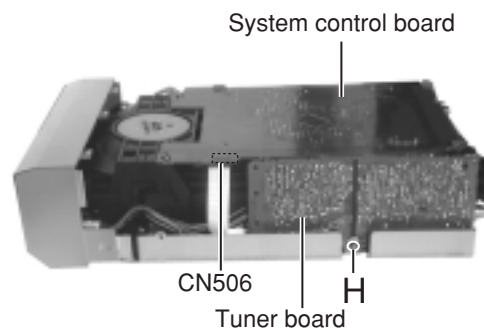


Fig. 11

■ Removing the CD mechanism assembly main & CD servo board (See Fig.12 to 14)

- Prior to performing the following procedure, remove the top cover, the front panel assembly, the rear panel, the system control board and the analog in/digital out board.
1. Remove the three screws I attaching the CD mechanism assembly and the screw J attaching the main & CD servo board. (The CD mechanism assembly will be detached together with the main & CD servo board.)
 2. Remove the three screws K attaching the main & CD servo board.
 3. Disconnect the harness from connector CN440 and CN438 on the main & CD servo board on the back of the CD mechanism assembly.
 4. Remove the card wire from connector CN439 on the main & CD servo board.

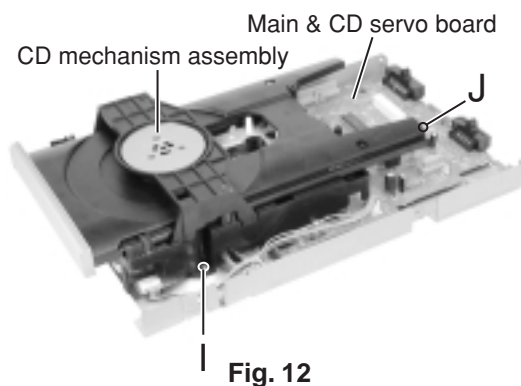


Fig. 12

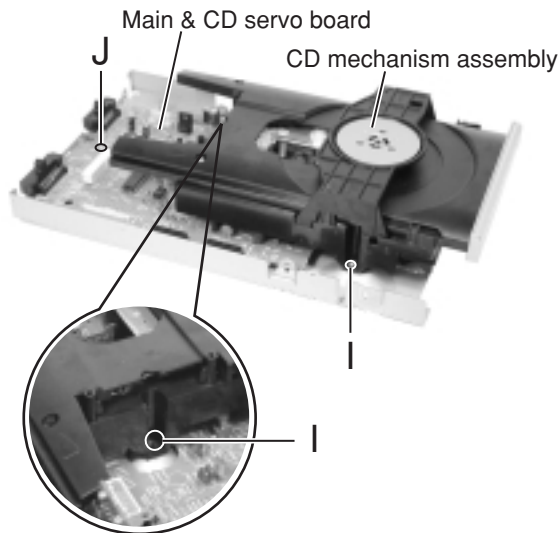


Fig. 13

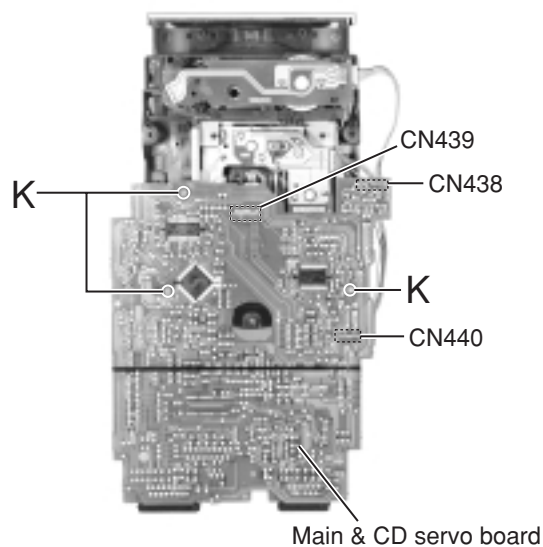


Fig. 14

■ Removing the front board (See Fig.15)

- Prior to performing the following procedure, remove the top cover and the front panel assembly.
1. Remove the seven screws L attaching the front board in the front panel assembly.

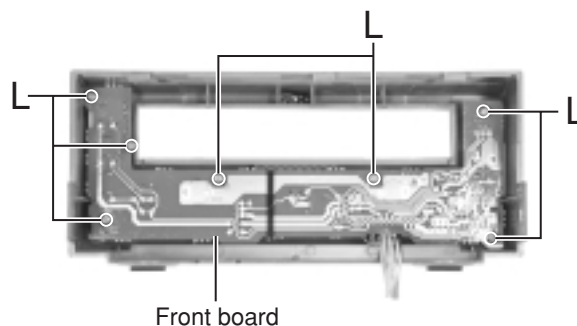
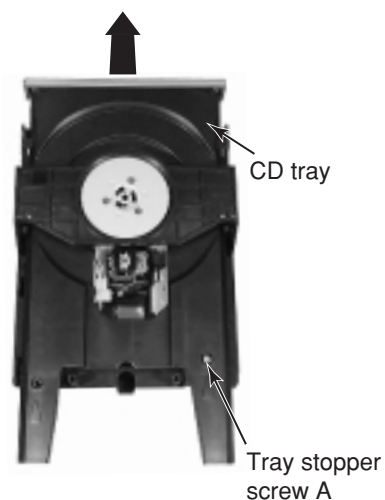


Fig. 15

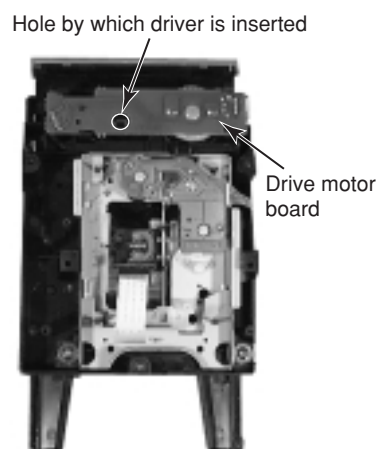
<< CD Mechanism section >>

■Removing the traverse mechanism

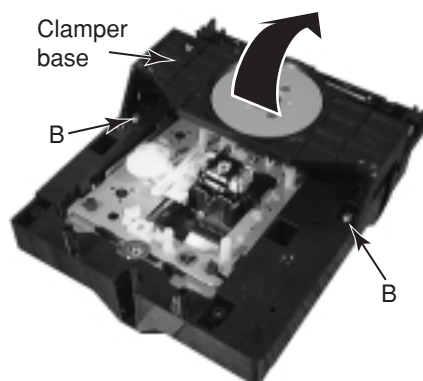
1. Remove the tray stopper screw "A" on the CD tray
2. The CD tray is drawn out in the direction of the arrow.



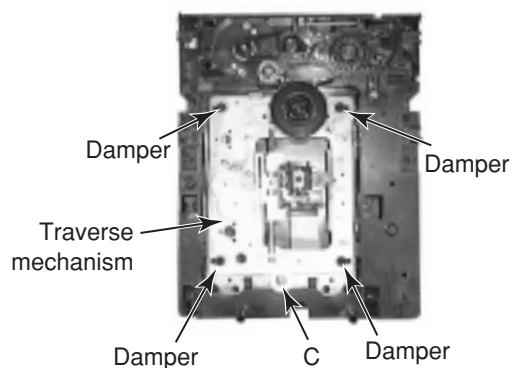
- * When the mechanism is locked to the CD tray, the lock of the CD tray comes off when the driver etc. are inserted in the hole in the bottom of the mechanism, and turns counterclockwise and the CD tray is drawn out.



3. Two screws "B" which is the fixation of clamper base is removed, clamper base is lifted, and removes.

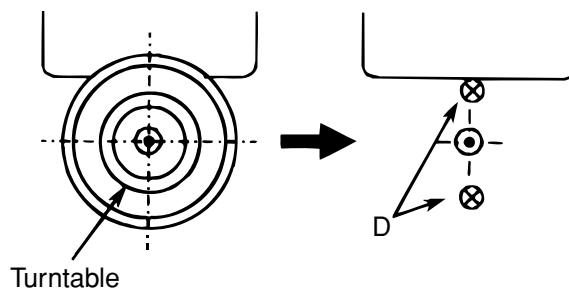


4. One the screw "C" which suppresses the traverse mechanism is removed.
5. The damper in four places is removed.



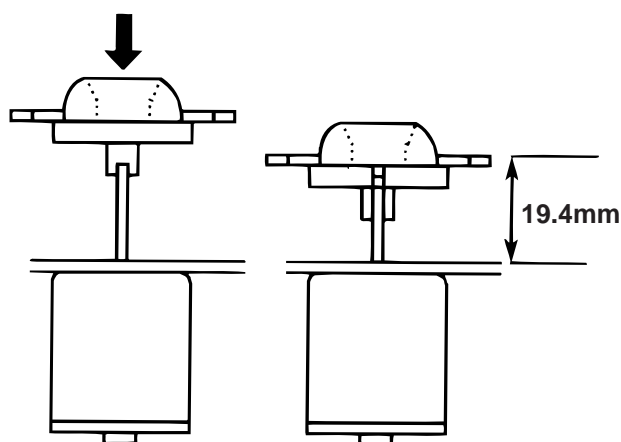
■ Removing the spindle motor

1. Remove the traverse mechanism
2. The turntable is removed from the spindle motor, and remove two screws D which is the fixation of the spindle motor.
3. Remove the screw which is the fixation of the spindle motor and the feed motor, and solder on the substrate is removed.



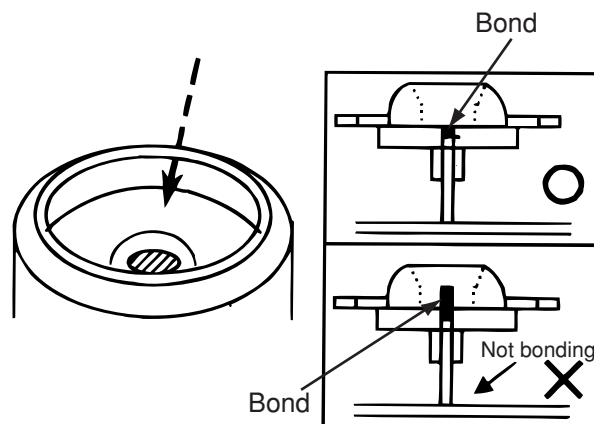
■ How to install spindle motor

1. The shaft of the spindle motor is passed from the lower side of the mechanism base.
2. Two screws are installed in the spindle motor by same strength.
3. The motor substrate is fixed with the screw, and the substrate is soldered with each motor.
4. The turntable is installed.
5. When the turntable is installed, the center of the turntable is vertically pushed on, and an accurate turntable is pushed so that height from the mechanism base to the upper surface of the turntable may become 19.4mm.

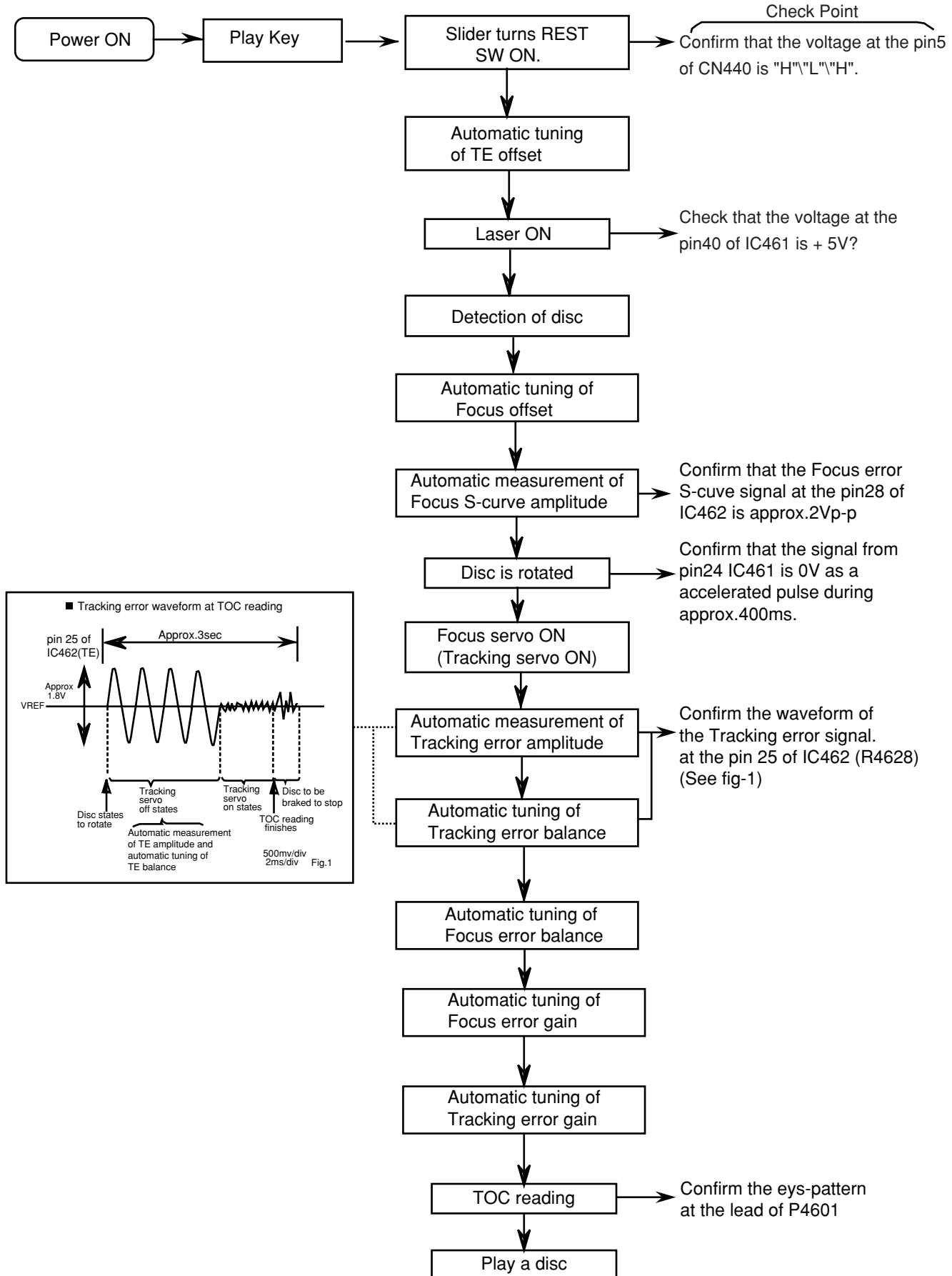


■ Method of bonding motor shaft and turntable

1. The adhesive uses loctite No,460.
2. Be careful please not to rise on the turntable by using an ultra small amount about the adhesive as shown in figure.
3. Moreover, the adhesive must never be put on the axis (arrow part) of the motor.

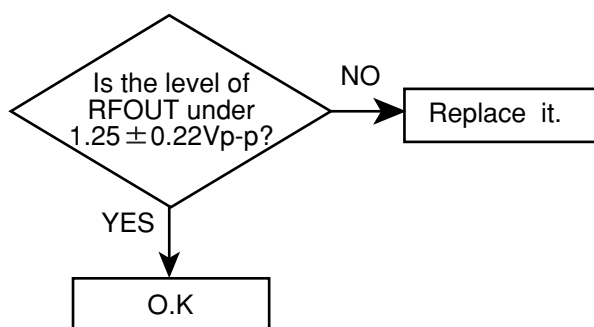


Flow of functional operation until TOC read

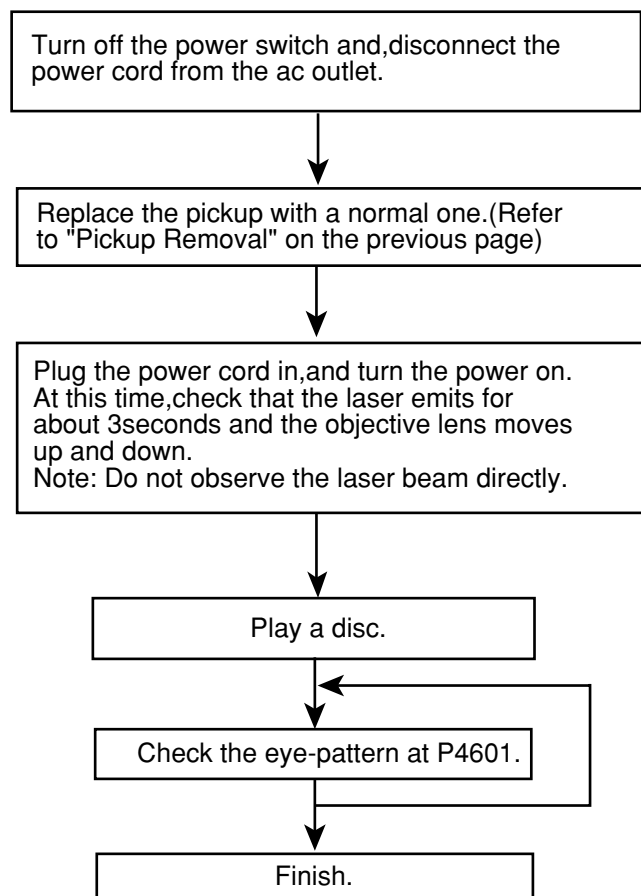


Maintenance of laser pickup

- (1) Cleaning the pick up lens
Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.
- (2) Life of the laser diode
When the life of the laser diode has expired, the following symptoms will appear.
 1. The level of RF output (EFM output: amplitude of eye pattern) will below.



Replacement of laser pickup



- (3) Semi-fixed resistor on the APC PC board The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power.Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value,the laser diode is almost worn out, and the laser pickup should be replaced.
If the semi-fixed resistor is adjusted while the pickup is functioning normally,the laser pickup may be damaged due to excessive current.

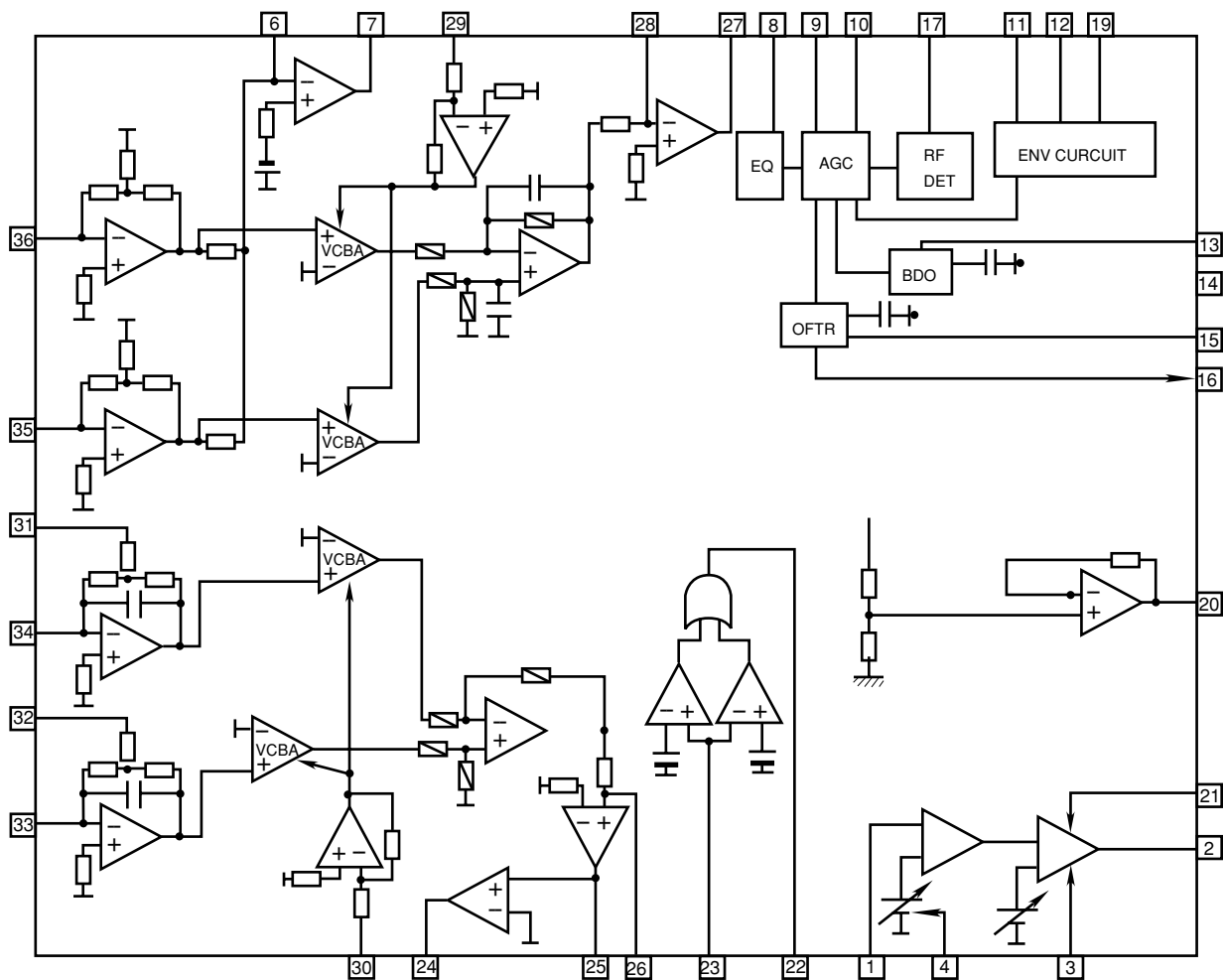
Description of major ICs

■AN8806S (IC462) : RF & Servo AMP

1.Pin layout

PD	1	36	PDAC
LD	2	35	PDBD
LDON	3	34	PDF
LDP	4	33	PDE
VCC	5	32	PDER
RF-	6	31	PDFR
RF OUT	7	30	TBAL
RF IN	8	29	FBAL
C.AGC	9	28	EF-
ARF	10	27	EF OUT
C.ENV	11	26	TE-
C.EA	12	25	TE OUT
CS BDO	13	24	CROSS
BDO	14	23	TE BPF
CS BRT	15	22	VDET
OFTR	16	21	LD OFF
/NRFDET	17	20	VREF
GND	18	19	ENV

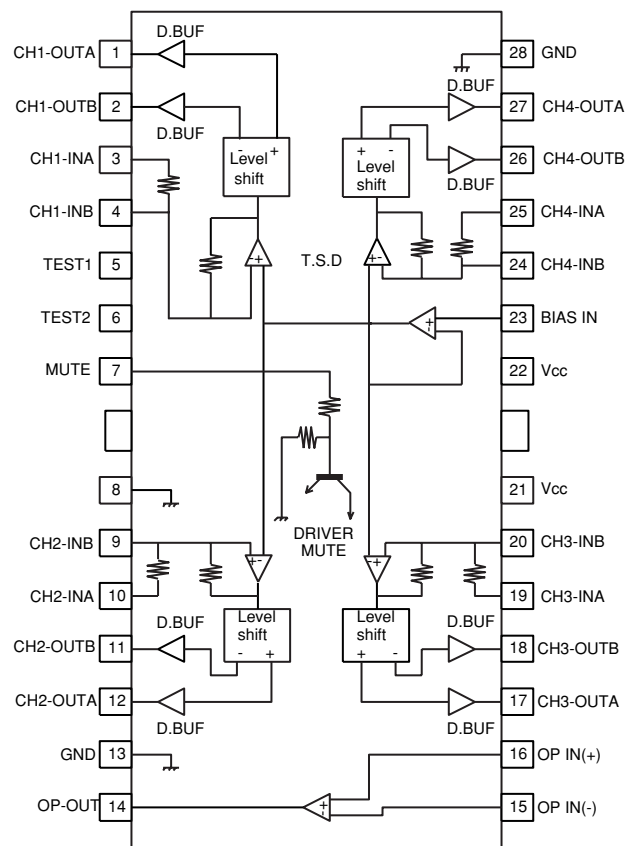
2.Block diagram



3. Pin function

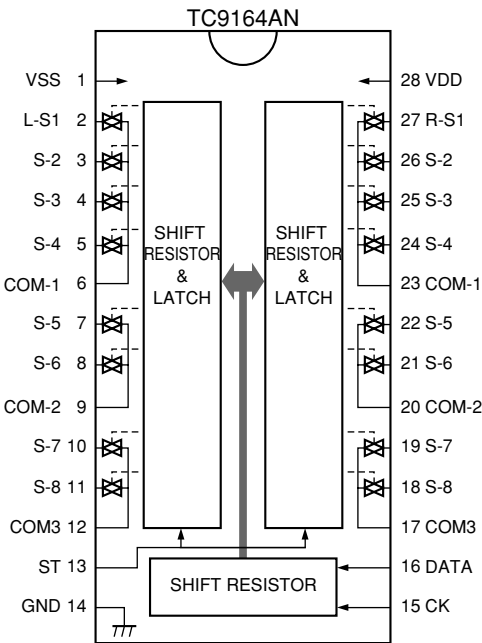
Pin No.	Symbol	I/O	Description
1	PD	I	APC amp input terminal
2	LD	O	APC amp output terminal
3	LD ON	I	APC ON/OFF control terminal
4	LDP	--	Connect to ground
5	VCC	--	Power supply
6	RF-	I	Inverse input pin for RF amp
7	RF OUT	O	RFamp output
8	RF IN	I	RF input
9	C.AGC	I/O	Connecting pin of AGC loop filter
10	ARF	O	RF output
11	C.ENV	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
12	C.EA	I/O	A capacitor is connected to this terminal to detect the envelope of RF signal
13	CS BDO	I/O	A capacitor is connected to detect the lower envelope of RF signal
14	BDO	O	BDO output pin
15	CS BRT	I/O	A capacitor is connected to detect the lower envelope of RF signal
16	OFTR	O	Of-track status signal output
17	/NRFDET	O	RF detection signal output
18	GND	--	Ground
19	ENV	O	Envelope output
20	VREF	O	Reference voltage output
21	LD OFF	--	Connect to ground
22	VDET	O	Vibration detection signal output
23	TE BPF	I	Input pin of tracking error through BPF
24	CROSS	O	Tracking error cross output
25	TE OUT	O	Tracking error signal output
26	TE-	I	Inverse input pin for tracking error amp
27	FE OUT	O	Output pin of focus error
28	FE-	I	Inverse input pin for focus error amp
29	FBAL	I	Focus balance control
30	TBAL	I	Tracking balance control
31	PDFR	I/O	F I-V amp gain control
32	PDER	I/O	E I-V amp gain control
33	PDF	I	I-V amp input
34	PDE	I	I-V amp input
35	PD BD	I	I-V amp input
36	PD AC	I	I-V amp input

■BA6897FP (IC463) : 4channel driver



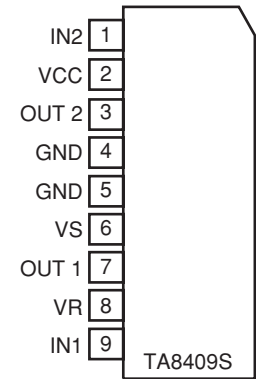
■TC9164AN (IC432) : Analog switch

- 1.Function
Switch to On/Off of S1 to S8 by control of LSI.
- 2.Terminal Lay out & Block Diagram



■TA8409S (IC464) : Motor driver

1.Pin layout

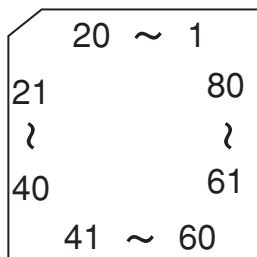


2.Pin function

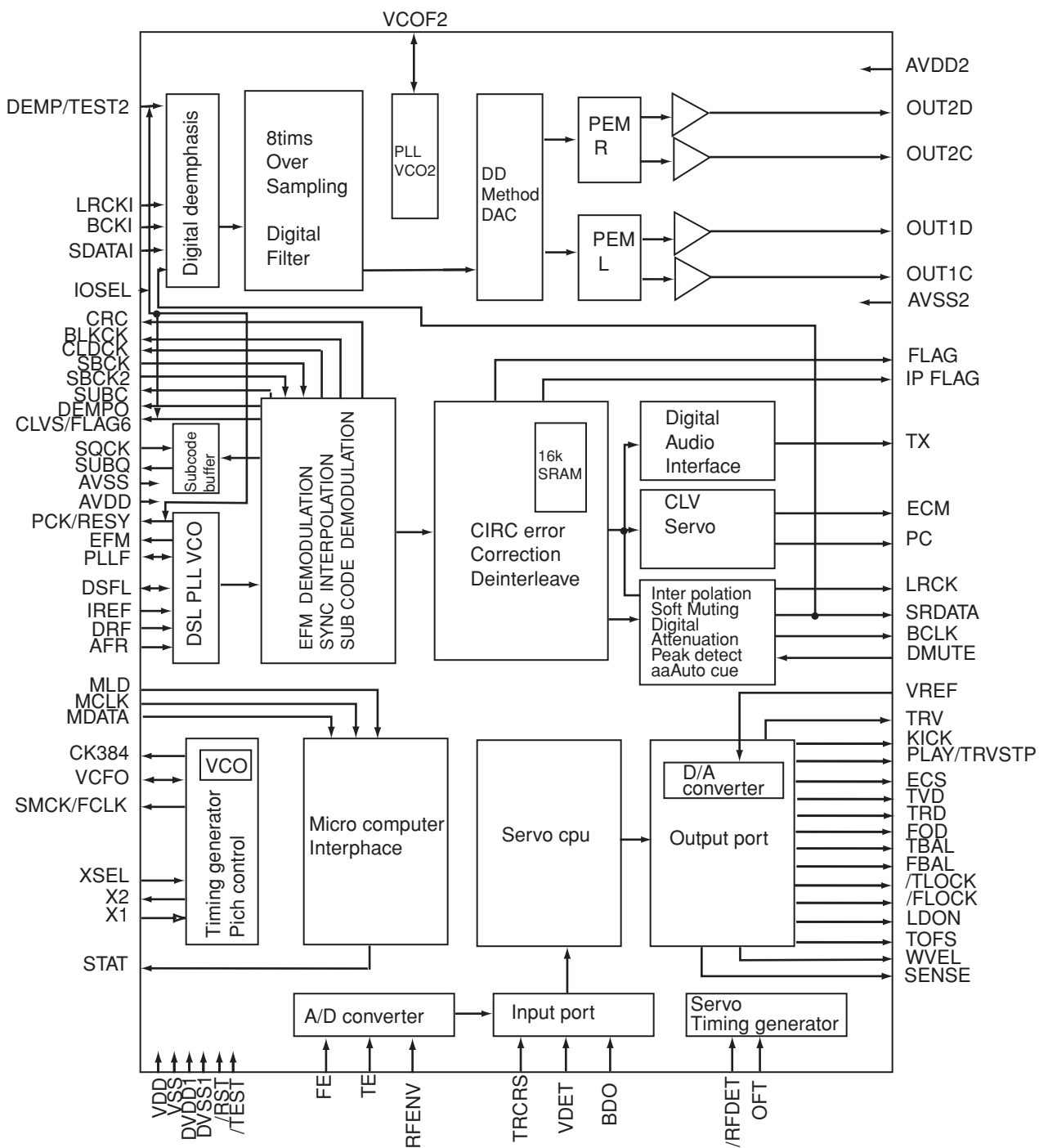
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	MOTOR
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

■ MN35511AL (IC461) : Digital servo & Processor

1.Pin layout



2.Block diagram



3. Pin function

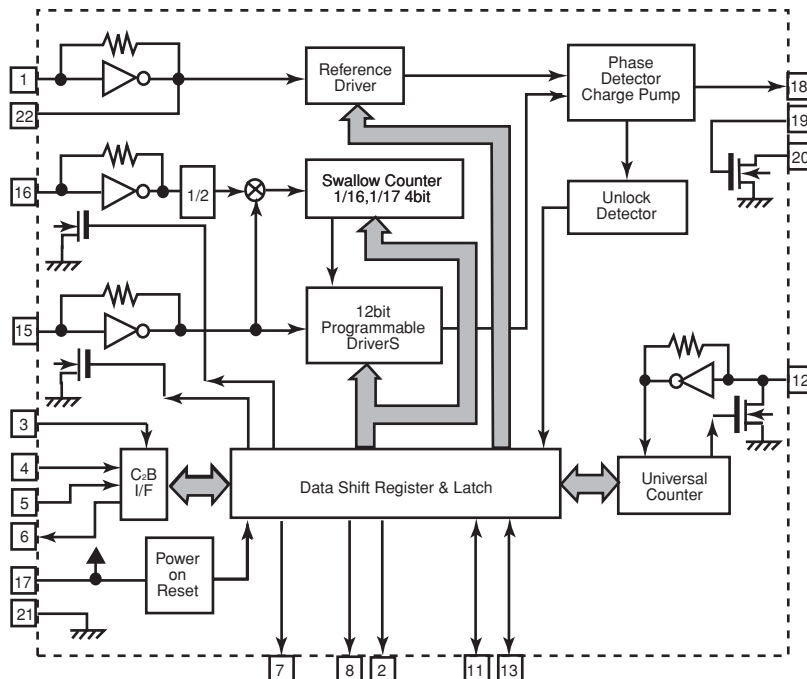
Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Bit clock output for SRDATA	41	TOFS	—	Non connect
2	LRCK	O	Identification signal output of Lch and Rch	42	PLAY	—	Non connect
3	SRDATA	O	Serial data output	43	WVEL	—	Non connect
4	DVDD1	—	Power supply (Digital)	44	ARF	I	RF signal input
5	DVSS1	—	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface output	46	DRF	I	Bias pin for DSL
7	MCLK	I	μ com command clock signal input (Data is latched at signal's rising point)	47	DSLIF	I/O	Loop filter pin for DSL
8	MDATA	I	μ com command data input	48	PLLIF	I/O	Loop filter pin for PLL
9	MLD	I	μ com command load signal input	49	VCOF	—	Not used
10	SENSE	-	Non connect	50	AVDD2	—	Power supply(Analog)
11	FLOCK	-	Non connect	51	AVSS2	—	Connected to GND(Analog)
12	TLOCK	-	Non connect	52	EFM	—	Non connect
13	BLKCK	-	Non connect	53	PCK	—	Non connect
14	SQCK	I	Outside clock for sub-code Q resistor input	54	FLAG	—	Non connect
15	SUBQ	O	Sub-code Q -code output	55	CRC	—	Non connect
16	DMUTE	—	Connected to GND	56	XSEL	I	Clock input for subcode/serial output
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	—	Connected to GND(for X'tal oscillation circuit)
18	RST	I	Reset signal input (L:Reset)	58	XI	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	—	Non connect	59	X2	O	Output of X'tal oscillation circuit
20	PMCK	—	Non connect	60	VDD	—	Power supply(for X'tal oscillation circuit)
21	TRV	O	Traverse enforced output	61	VCOF2	O	PLL loop filter terminal for jitter absorption
22	TVD	O	Traverse drive output	62	AVSS1	O	Ground terminal for audio DAC
23	PC	—	Non connect	63	OUT1C	O	PEM output terminal 1C
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	OUT1D	O	PEM output terminal 1D
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	OUT2D	O	PEM output terminal 2D
26	KICK	O	Kick pulse output	66	OUT2C	O	PEM output terminal 2C
27	TRD	O	Tracking drive output	67	AVDD1	O	Power supply for audio DAC
28	FOD	O	Focus drive output	68	DEMPO	-	Non connect
29	VREF	I	Reference voltage input pin for D/A output block (TVD,FOD,FBA,TBAL)	69	CK384	O	384fs clock output
30	FBAL	O	Focus Balance adjust signal output	70	IOSEL	I	Mode switch terminal
31	TBAL	O	Tracking Balance adjust signal output	71	TEST	I	Test mode setting terminal
32	FE	I	Focus error signal input(Analog input)	72	SBCK2	I	Sub code/data reading clock input
33	TE	I	Tracking error signal input(Analog input)	73	SUBC	O	Sub code/serial output
34	RF ENV	I	RF envelope signal input(Analog input)	74	SBCK	I	Clock input for sub code/serial output
35	VDET	I	Vibration detect signal input(H:detect)	75	CLDCK	O	Sub code /frame clock signal output terminal
36	OFT	I	Off track signal input(H:off track)	76	IPFLAG	I	Interpolation flag signal output H:Interpolation
37	TRCRS	I	Track cross signal input	77	DEMPI	I	IOSEL:L The outside DEMPO input terminal
38	RFDET	I	RF detect signal input(L:detect)	78	SDATI	I	SRDATA input terminal
39	BDO	I	BDO input pin(L:detect)	79	LRCKI	I	When IOSEL is "L", LRCK input H:Lch data
40	LDON	O	Laser ON signal output(H:on)				L:Rch data
				80	BCKI	I	When IOSEL is "L", BCK input

■LC72136N (IC2) : PLL frequency synthesizer

1. Pin layout

XT	1	22	XT
FM/AM	2	21	GND
CE	3	20	LPFOUT
DI	4	19	LPFIN
CLOCK	5	18	PD
DO	6	17	VCC
FM/ST/VCO	7	16	FMIN
AM/FM	8	15	AMIN
	9	14	
	10	13	IFCONT
SDIN	11	12	IFIN

2. Block diagram

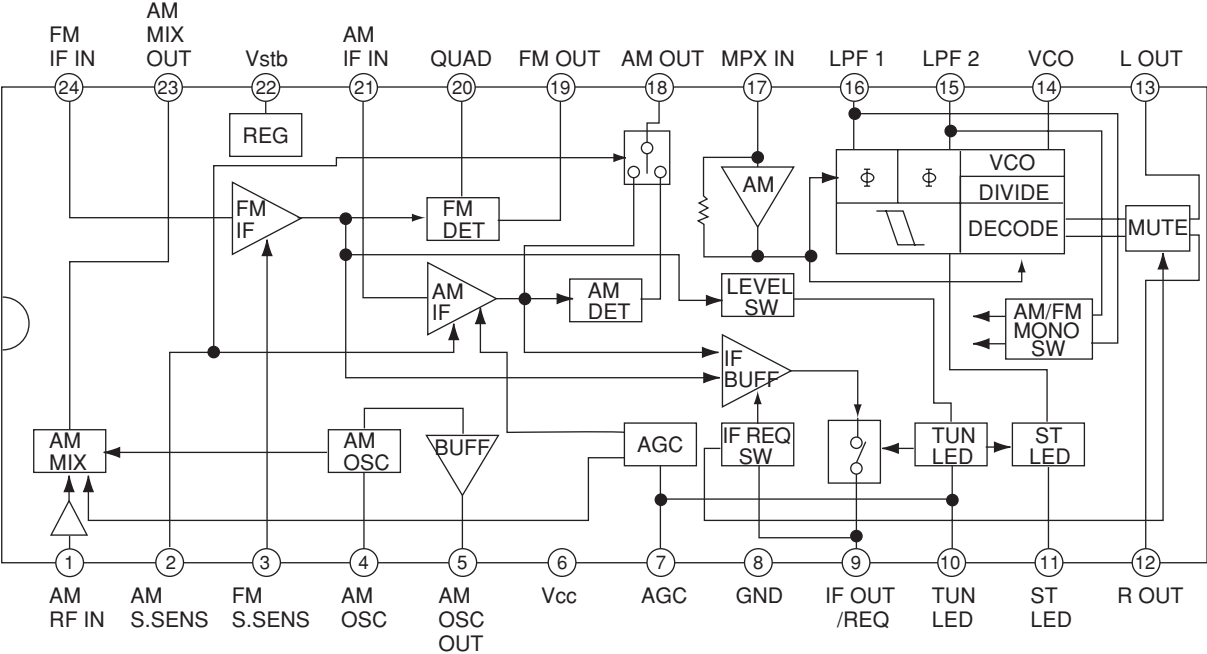


3. Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XT	I	X'tal oscillator connect (75kHz)	12	IFIN	I	IF counter signal input
2	FM/AM	O	LOW:FM mode	13	IFCONT	O	IF signal output
3	CE	I	When data output/input for 4pin(input) and 6pin(output): H	14		-	Not use
4	DI	I	Input for receive the serial data from controller	15	AMIN	I	AM Local OSC signal output
5	CLOCK	I	Sync signal input use	16	FMIN	I	FM Local OSC signal input
6	DO	O	Data output for Controller Output port	17	VCC	-	Power supply(VDD=4.5-5.5V) When power ON:Reset circuit move
7	FM/ST/VCO	O	"Low": MW mode	18	PD	O	PLL charge pump output(H: Local OSC frequency Height than Reference frequency. L: Low Agreement: Height impedance)
8	AM/FM	O	Open state after the power on reset	19	LPFIN	I	Input for active lowpassfilter of PLL
9	LW	I/O	Input/output port	20	LPFOUT	O	Output for active lowpassfilter of PLL
10	MW	I/O	Input/output port	21	GND	-	Connected to GND
11	SDIN	I/O	Data input/output	22	XT	I	X'tal oscillator(75KHz)

■TA2057N (IC1) : FM/AMP IF AMP & Detector

1.Block Diagrams

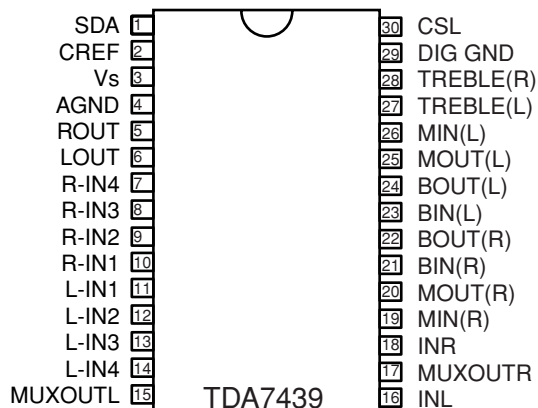


2.Pin Function

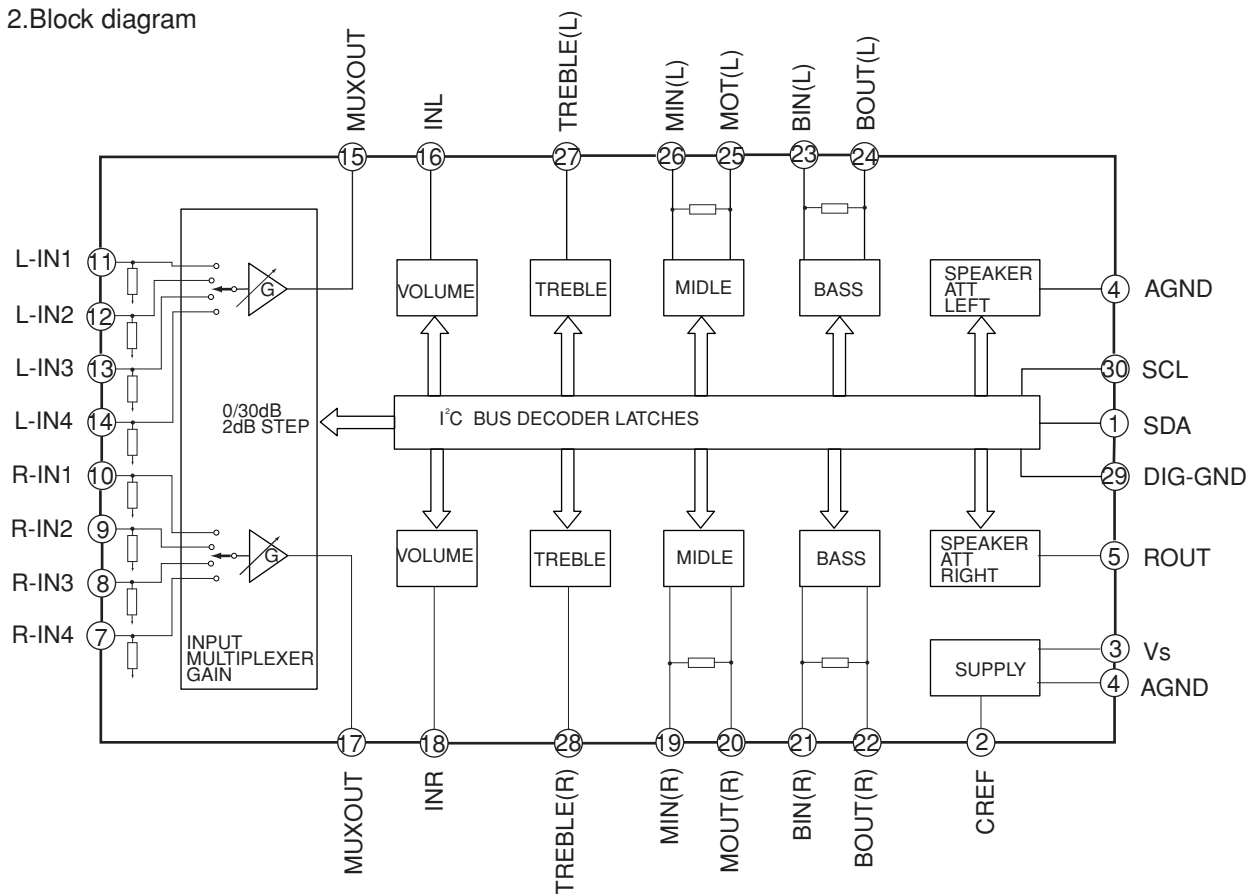
Pin No.	I/O	Symbol	Function	Pin No.	I/O	Symbol	Function
1	I	AM RF	AMRF signal input	13	O	Lch OUT	Output Lch
2		AM S.SENS		14	O	VCO	Voltage controlled terminal
3		FM S.SENS		15	O	LPF2	When voltage of terminal is MONO at "H" and ST at "L"
4	-	AM OSC	AM local oscillation circuit	16	O	LPF1	When voltage of terminal is AM at "H" and FM at "L"
5	O	AM OSC OUT	AM local oscillation signal output	17	I	MPX IN	Multi plex signal input
6	-	VCC	Power supply	18	O	AM OUT	AM detection signal output
7	I	AGC	AGC voltage input terminal	19	O	FM OUT	FM detection signal output
8	-	GND	Connect to GND	20	I	FM QUAD	Bypass to FMIF
9	O	IF OUT	IF REQ signal output to IC2	21	I	AM IF IN	Input of AMIF signal
10	O	TU IND	Indicator drive output when tuning	22	-	Vstb	Fixed voltage output terminal
11	O	ST IND	Stereo indicator output "H"mono . "L"stereo	23	O	AM MIX OUT	Output terminal for AM mixer
12	O	Rch OUT	Output Rch	24	I	FM IF IN	Input of FMIF signal

■TA7439 (IC435) : Rear/center volume

1.Pin layout

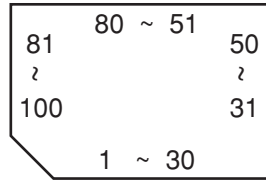


2.Block diagram



■UPD784214AFG501 (IC501) : Sysem controller

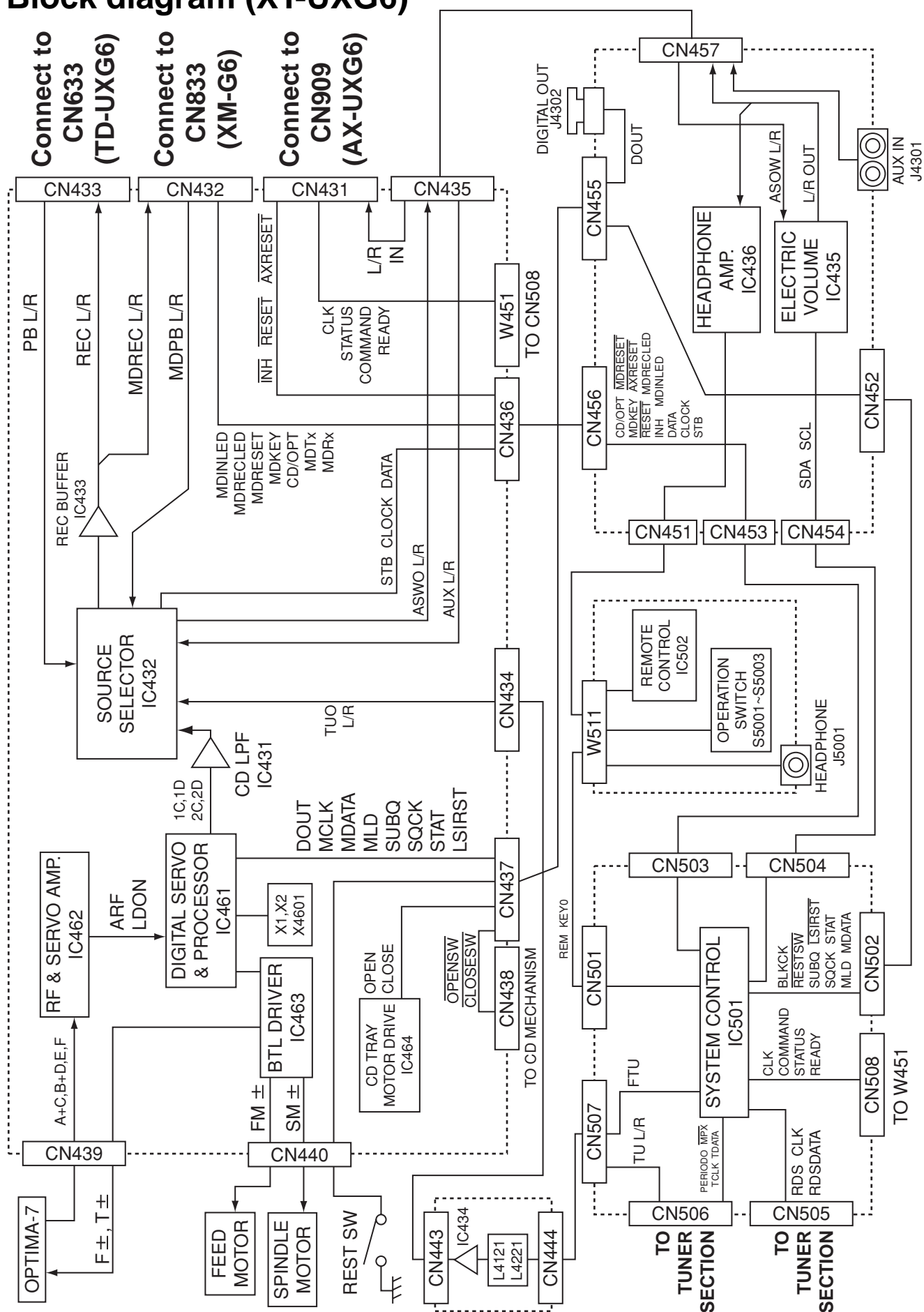
1.Pin layout



2. Pin function

Pin No.	Symbol	I/O	Description	Pin No.	Symbol	I/O	Description																								
1	PERIODO	O	Tuner PLL control output	61	AVSS	-	Connect to GND																								
2	MPX	I	Stereo indicator signal input	62	CD/OPT	O	Digital input selector																								
3	TCLOCK	O	Tuner PLL control output	63	MDRESET	O	MD Reset signal output																								
4	TDATA	I/O	Tuner PLL control	64	AVREF	-	Power supply																								
5	NC	-	Non connect	65	MD Rx	I	MD Unit I/F input																								
6	RDS DATA	I	RDS Data input	66	MD Tx	O	MD Unit I/F output																								
7,8	NC	-	Non connect	67	NC	-	Non connect																								
9	VDD	-	Power supply terminal	68	SUBQ	I	CD Q-code input																								
10	fout	O	fx/n Output	69	NC	-	Non connect																								
11	BAND0	I	<table><tr><td>0 E</td><td>1 J</td><td>0 U</td><td>1 UX</td><td>0 UR</td><td>1 EE</td><td>0 A</td><td>1 U</td></tr><tr><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table>	0 E	1 J	0 U	1 UX	0 UR	1 EE	0 A	1 U	0	0	1	1	0	0	1	1	0	0	0	0	1	1	1	1	70	SQCK	O	CD Q-code clock output
0 E	1 J			0 U	1 UX	0 UR	1 EE	0 A	1 U																						
0	0			1	1	0	0	1	1																						
0	0	0	0	1	1	1	1																								
12	BAND1	71	AXRESET	O	Reset signal output to AX-UXG6																										
13	BAND2	72	READY	O	Micom I/F output to IC701 (AX-UXG6)																										
14	SDA	O	Electric volume control data output	73	STATUS	I	Micom I/F input to IC701 (AX-UXG6)																								
15	SCL	I/O	Electric volume control (clock)	74	COMMAND	O	Micom I/F output to IC701 (AX-UXG6)																								
16	NC	-	Non connect	75	CLK	O	Micom I/F output to IC701 (AX-UXG6)																								
17	DATA	I	Data input from source selector	76	NC	-	Non connect																								
18	CLOCK	I	Clock input from source selector	77	MCLCK	O	CD LSI control signal output to IC461																								
19	STB	I	Strobe input from source selector	78	REST SW	I	Rest switch detection terminal																								
20,21	NC	-	Non connect	79	LSI RST	O	CD LSI reset signal output to IC461																								
22	TEST/VDD	-	Connect to GND	80	STAT	I	Status signal input from IC461																								
23	TEST1	-	Connect to GND	81	MLD	O	Command load signal output to IC461																								
24,26	NC	-	Non connect	82	MDATA	O	Command data output to IC461																								
27	DCSIN	I	DCS Signal input from TAPE	83	NC	-	Non connect																								
28	DCSOUT	O	DCS Signal output to TAPE	84	MDRECLED	O	MD REC LED control signal output																								
29	NC	-	Non connect	85	FCD	O	Function CD																								
30	INH	I	Power failure detect	86	SMUTE	O	System mute output																								
31	TEST2	-	Connect to GND	87	HPMUTE	O	Headphone mute output																								
32~36	NC	-	Non connect	88	LED0	O	Power lighting when it is on always (CD/TUNER LED)																								
37	VDD	-	Power supply																												
38,39	X2,X1	I/O	Oscillation terminal (10MHz)	89	MDINLED	O	MD IN Indicator control output																								
40	Vss	-	Connect to GND	90	NC	-	Non connect																								
41	XT2	-	Non connect	91	CLOSESW	I	CD tray close switch detection terminal																								
42	XT1	I	Sub clock	92	OPENSWS	I	CD tray open switch detection terminal																								
43	RESET	I	Reset input	93	CLOSE	O	CD tray close control signal output																								
44	REM	I	Remote control signal input	94	OPEN	O	CD tray open control signal output																								
45	RDSCCLK	I	RDS Clock input	95	NC	-	Non connect																								
46	BLKCK	I	CD Q-code block clock input	96	FTU	O	Function tuner																								
47~50	NC	-	Non connect	97	TUNERTEST	I/O	Tuner reset																								
51	AVDD	-	Power supply	98	NC	-	Non connect																								
52	AVREF0	-	Power supply	99	SPK	O	Speaker relay control H=ON																								
53	MD KEY	I	Key control signal input from MD	100	Vss	-	Connect to GND																								
54	KEY0	I	Key control signal input from CD																												
55,56	NC	-	Non connect																												
57	NC	-	Connect to GND																												
58	SAFETY0	I	When power is ON (INH)=detection "H"																												
59	SAFETY1	-	Non connect																												
60	NC	-	Connect to GND																												

Block diagram (XT-UXG6)



<< M E M O >>

TD-UXG6

Disassembly method (TD-UXG6)

■Removing the top cover (See Fig.1)

1. Remove the two screws A and the four screws B attaching the top cover.
2. Remove the top cover from behind in the direction of the arrow while pulling the sides outward.

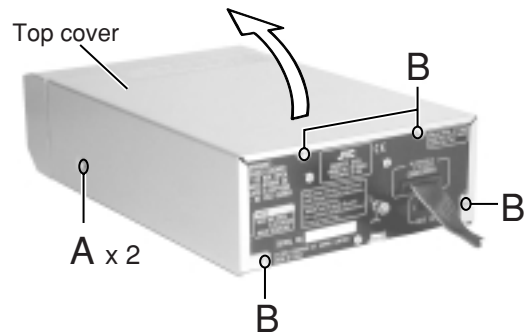


Fig. 1

■Removing the front panel assembly (See Fig.2 to 5)

- Prior to performing the following procedure, remove the top cover.
1. Disconnect the card wire from connector CN637 on the main board and remove the screw C attaching the ground terminal on the main board.
 2. Remove the three screws D on the bottom of the body.
 3. Release the joint "a" on the bottom and the joints "b" on both sides of the body, and remove the front panel assembly toward the front.

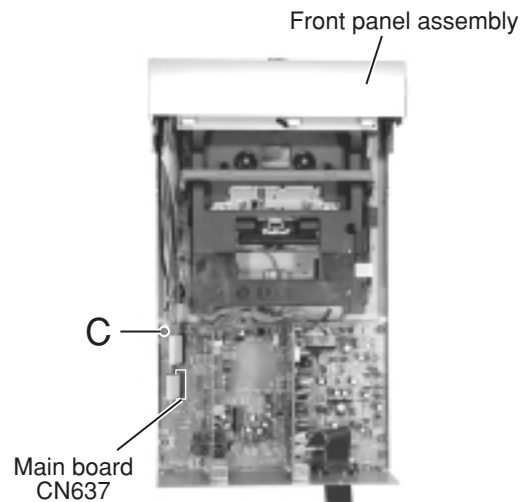


Fig. 2

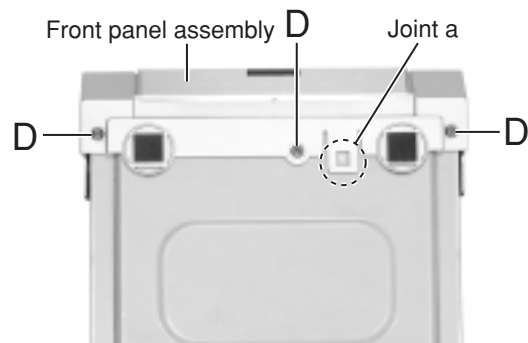


Fig. 3

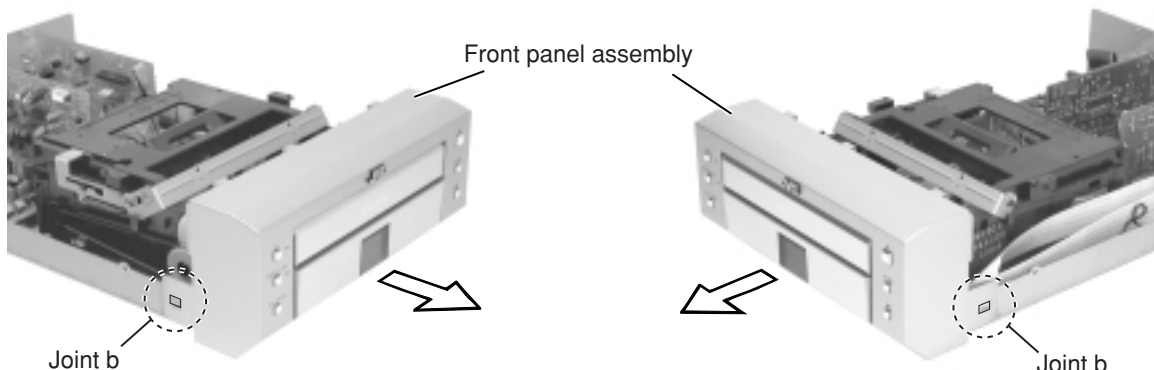


Fig. 5

Fig. 4

■Removing the rear panel

(See Fig.6 and 7)

- Prior to performing the following procedure, remove the top cover.
1. Remove the three screws E attaching the rear panel on the back of the body and release the two joints "c" on both sides while moving the rear panel upward
 2. Disconnect the harness from connector CN633 on the main board.
(When disconnecting the harness from the rear panel, unhook the upper and lower four hooks of the wire stopper on the back of the rear panel and pull out the harness outward.)

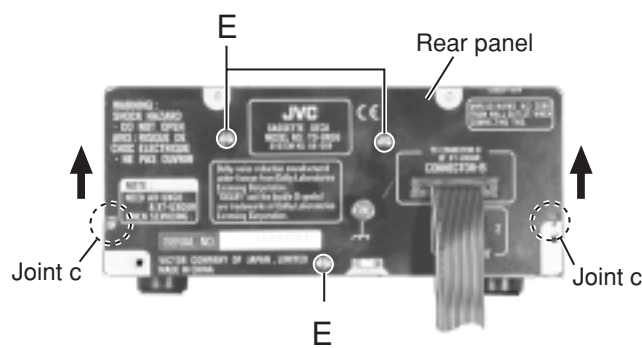


Fig. 6

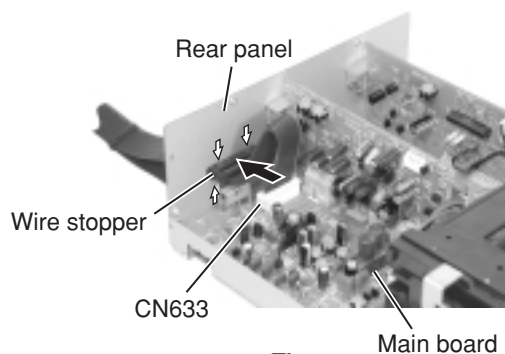


Fig. 7

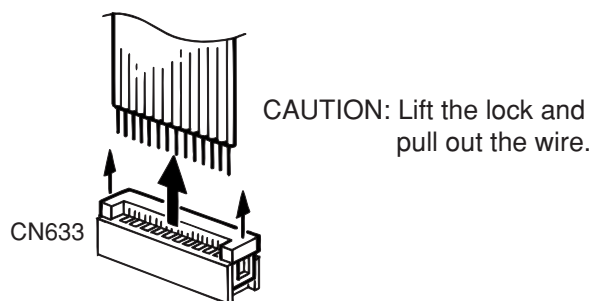


Fig.7-1

■Removing the cassette mechanism

assembly (See Fig.8)

- Prior to performing the following procedure, remove the top cover and the front assembly.
1. Disconnect the card wire from connector CN647 and the harness from CN635 on the main board respectively.
 2. Disconnect the harness from the connector on the motor board in the cassette mechanism assembly.
 3. Remove the four screws F and detach the cassette mechanism assembly upward.

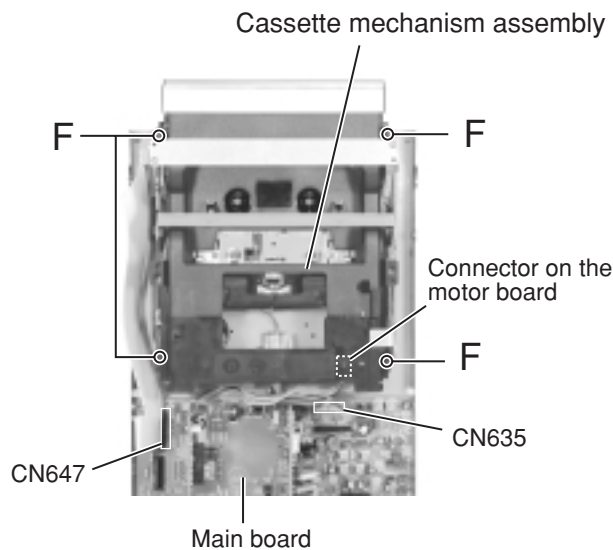


Fig. 8

■Removing the loading mechanism board/

Dolby board (See Fig.9)

- Prior to performing the following procedure, remove the top cover and the rear panel.
1. Disconnect the harness from the connector on the motor board in the cassette mechanism. Then disconnect the loading mechanism board from connector CN634 on the main board.
 2. Disconnect the Dolby board from connector CN632 and CN636 on the main board.

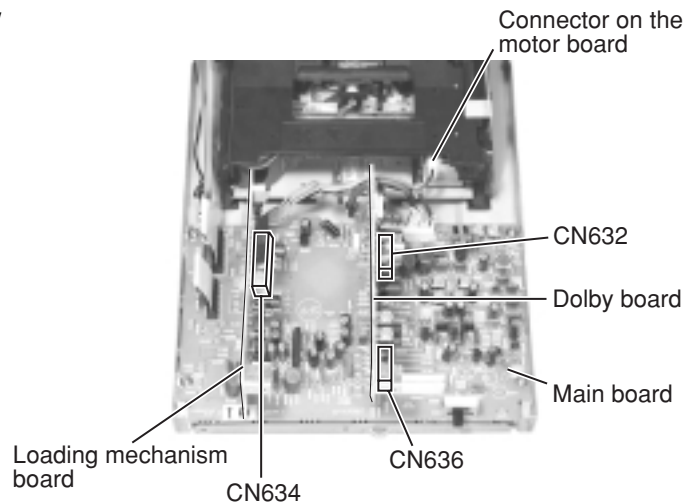


Fig. 9

■Removing the main board (See Fig.10)

- Prior to performing the following procedure, remove the top cover, the rear panel, the loading mechanism board and the Dolby board.
1. Disconnect the card wire from connector CN637 and CN647 on the main board. Then disconnect the harness from CN635.
 2. Remove the four screws G attaching the main board.

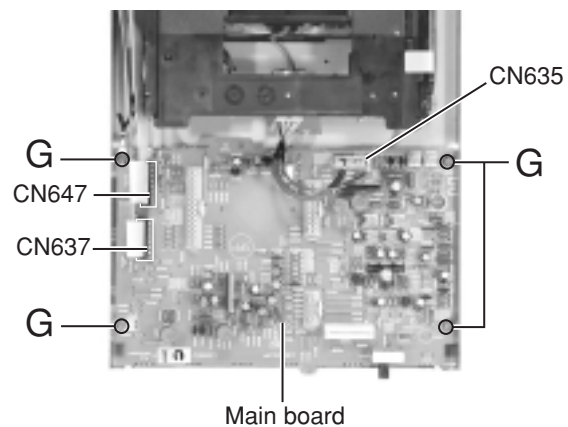


Fig. 10

■Removing the front board (See Fig.11)

- Prior to performing the following procedure, remove the top cover and the front panel assembly.
1. Remove the seven screws H attaching the front board in the front panel assembly.

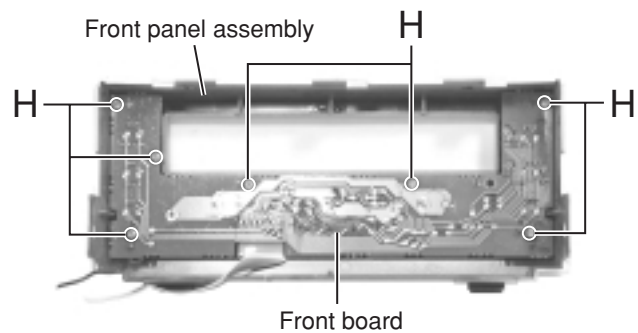


Fig. 11

<<Cassette Mechanism Section>>

■ Detaching the cassette loading mechanism (Fig. 1 to 3)

1. Turn the loading drive gear in the direction shown by the arrow so that the head relay board can be removed.
2. Remove the screw A securing the head relay board (to protect the head wire).
3. Remove the two screws B securing the capstan motor bracket.
4. Remove the screw D securing the cassette stabilizer, and detach the stabilizer by pressing it from the side the securing screw is on.
5. Remove the two screws E securing the bracket.
6. Disconnect the capstan motor wiring and detach the cassette mechanism and capstan motor bracket from the loading section.
7. Turn the unit over and remove the four screws C securing the cassette mechanism assembly.
8. Loading section
Detach the left and right side brackets by pressing their bottoms into the unit and then pulling them towards the back. Detach the left side by turning the loading gear.
9. To detach the tray without removing the screws (D and E) securing the bracket, open the stopper's pawl as shown in the figure and release the stopper to pull out the tray.

(When D and E are not removed)
Release this stopper.

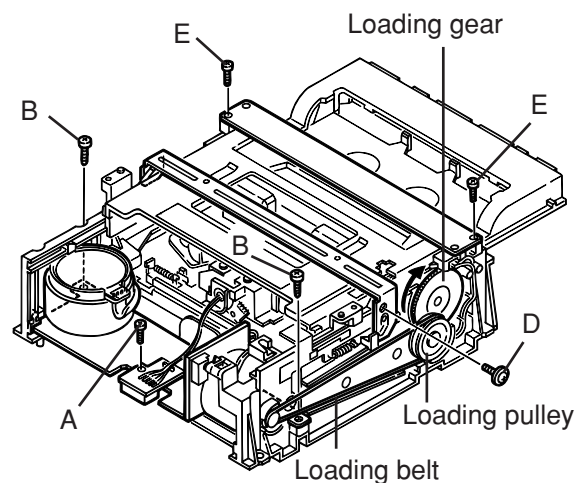
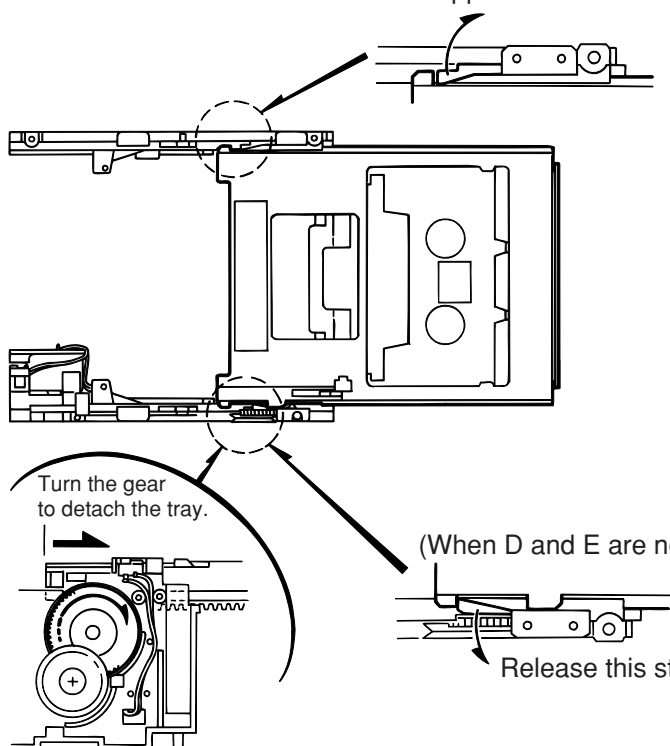


Fig. 1

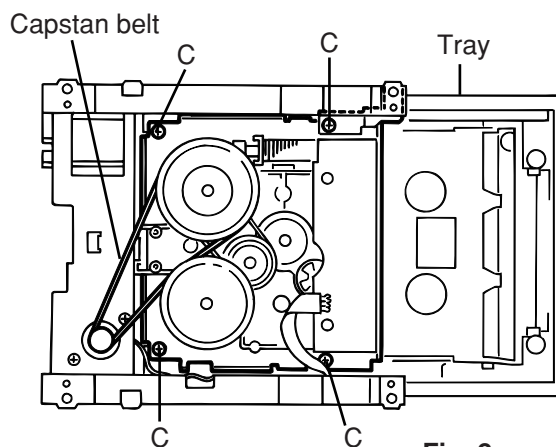


Fig. 2

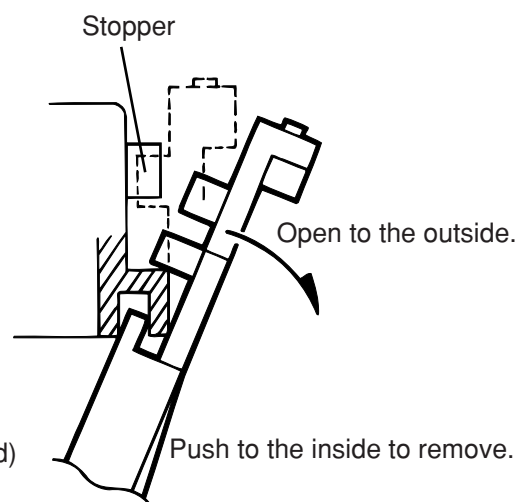


Fig. 3

■Detaching the capstan motor (Fig. 4)

1. Disconnect the capstan motor wiring.
2. Remove the two screws F securing the capstan motor.

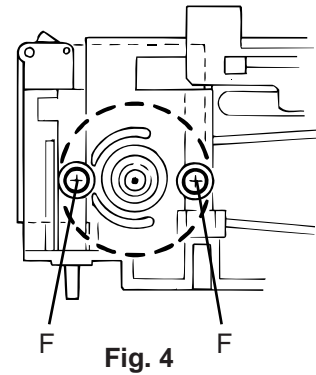


Fig. 4

■Detaching the mechanism (Fig. 5 to 11)

1. Head block
Remove the two screws G securing the head block (when installing, attach to the return gear arm).
2. Pinch roller assembly
(1) Remove the pinch roller return spring (used to prevent particle build-up).
(2) Release the hook securing the pinch roller arm and pull the assembly up.
3. Reel disk
Press in the tip and pull out the disk. The stopper, reel feather, spring and reel disk are detached at the sometime.

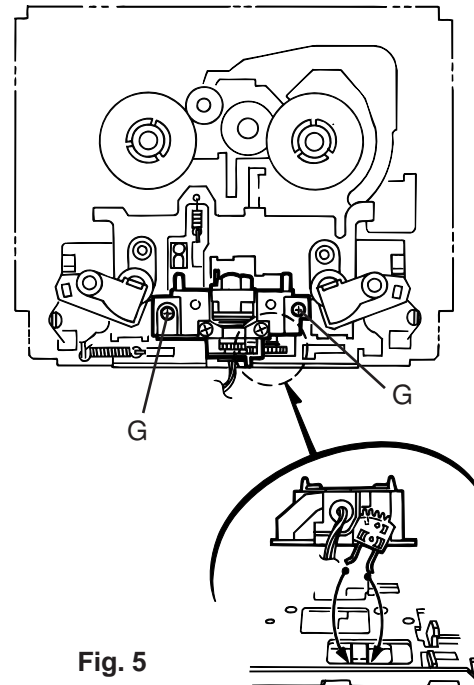


Fig. 5

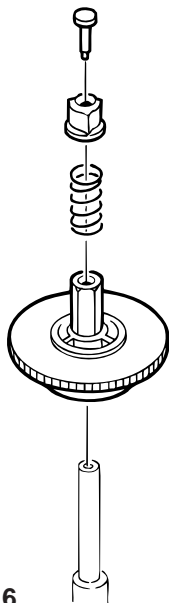


Fig. 6

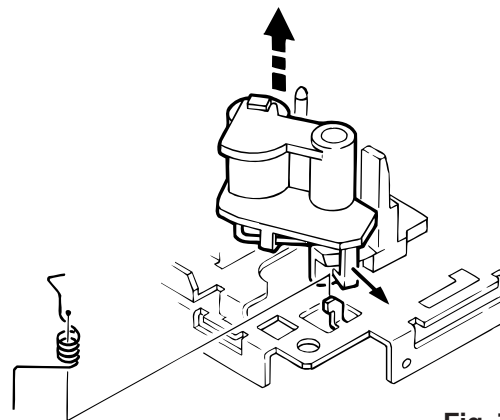


Fig. 7

4. Leaf switch replacement

Remove the two screws H securing the leaf switch board.

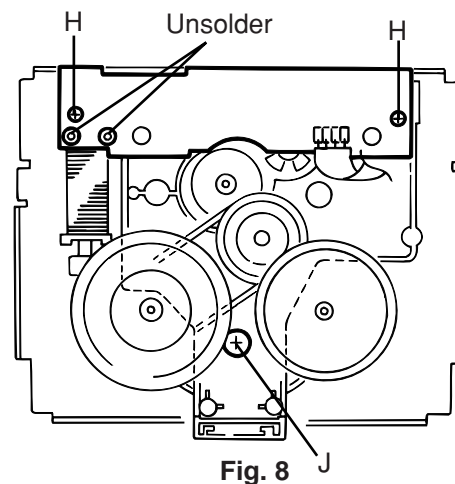


Fig. 8

5. Mechanism base

(1) Pull out the reel disk.

(2) Detach the brake arm.

Pull up the brake arm by releasing the stopper on the brake arm shaft.

(3) Remove the four switches I securing the mechanism base unit.

(4) Pull out the reel idle gear.

(5) Turn the unit over and remove the screw J.

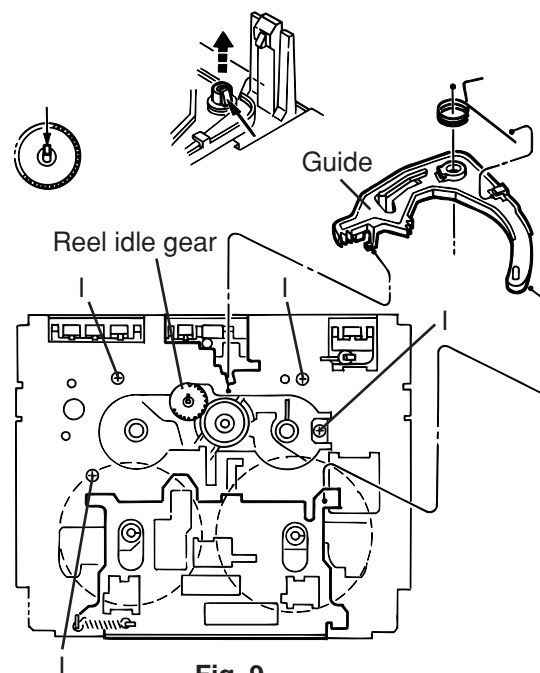


Fig. 9

■ Detaching the flywheel

1. Remove the C washers and washers from the capstan.

2. Pull out the flywheel.

Note: When assembling, be sure to replace the C washers and washers on the same sides they came from.

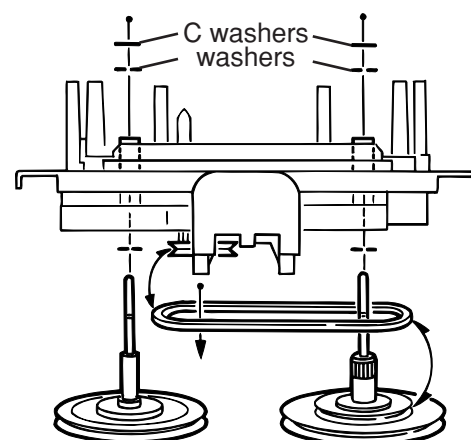


Fig. 10

■Assembling (Figs. 11 to 13)

1. Set the cam gear in the position shown in the figure.
2. Set the spring as shown in the figure.
3. Set the solenoid plunger (shaft).
4. Attach to the mechanism base.
5. Slide the head return slider (white plastic) in the direction shown by the arrow to position the stud.
6. Check the positioning of the plunger.
7. Set the cam gear with the screw (K).
8. Turn the cam gear and make sure that the headbase moves back and forth.

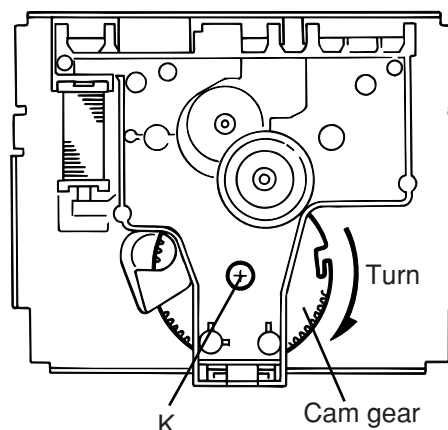


Fig. 11

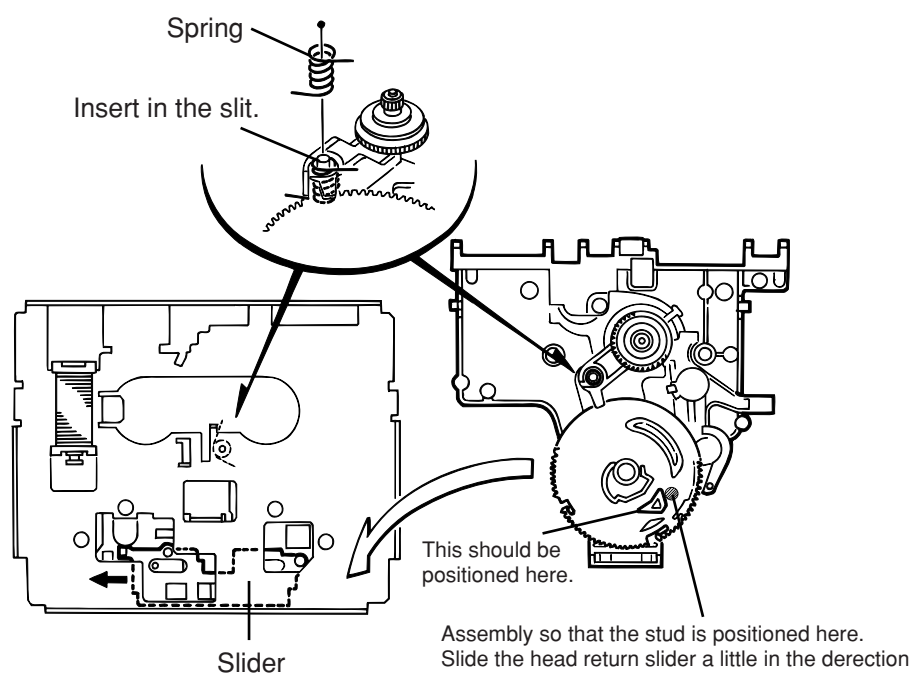


Fig. 12

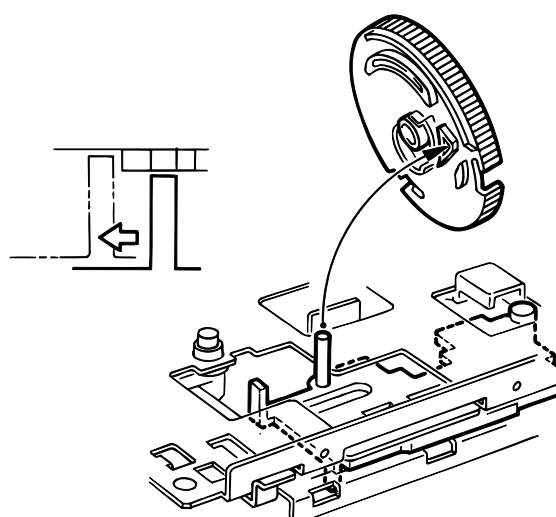


Fig. 13

Main adjustment

1.Measuring instruments required for adjustment

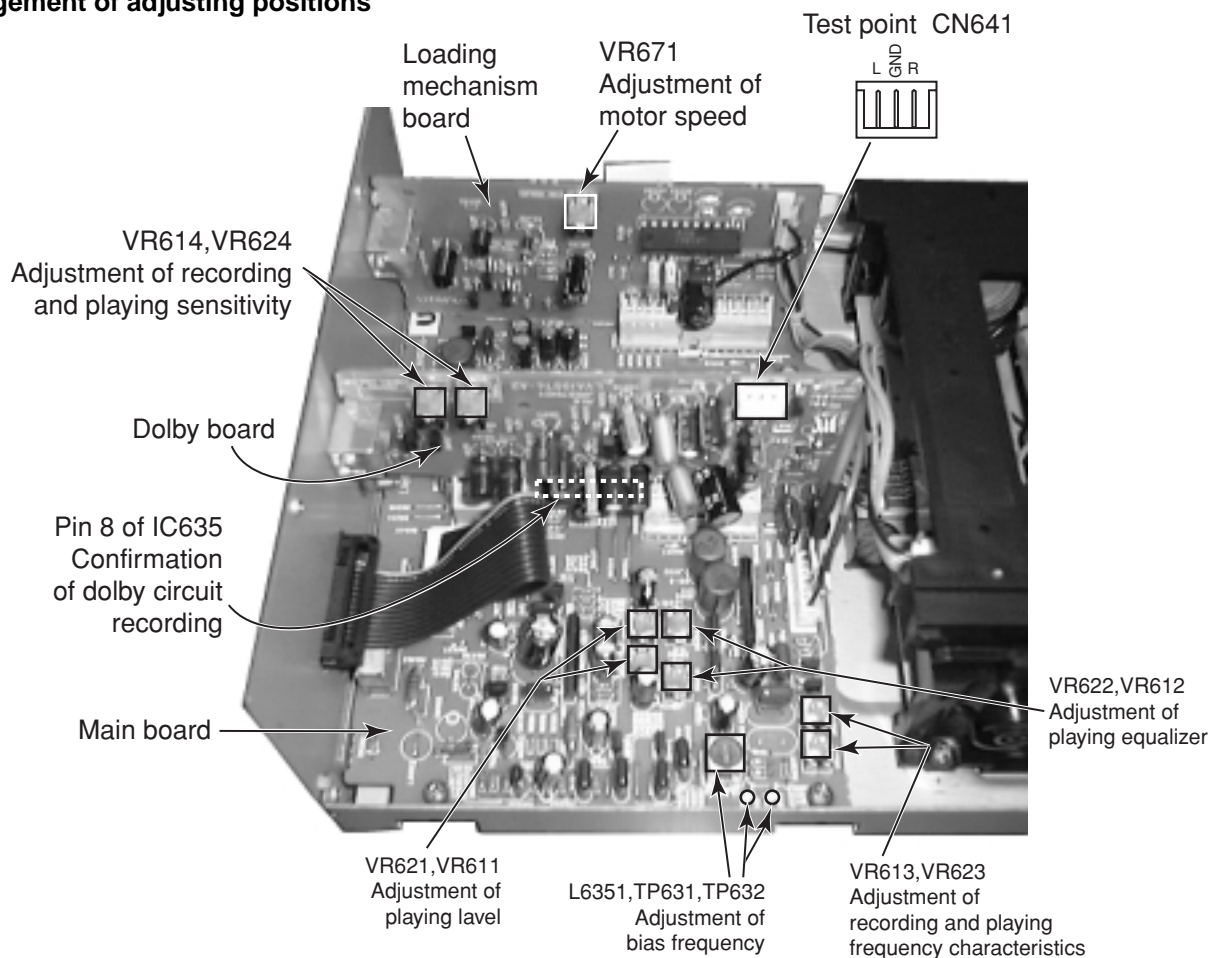
- (1) Low frequency oscillator
This oscillator should be capable of outputting 0dB (0.775V) at the 600W terminal at an oscillation frequency of 50 - 20kHz.
- (2) Attenuator (Impedance: 600 Ω)
- (3) Electronic voltmeter
- (4) Standard tapes for measurement
VT712 (for measuring the tape speed and wow flatter)
VT724 (Reference level) (1kHz)
TMT735 (for measuring the playing (playback) frequency characteristics) (1kHz and 12.5kHz)
TMT6447 and TMT6448 (for music scanning)
VT705 (12.5kHz) (for adjusting the head azimuth)
- (5) Standard recording tape
AC-225 (TDK AD), AC-514 (TDK SA), or equivalent (Be sure to use only the standard recording (measurement) tapes specified by this division).

- (6) 600 Ω resistors and so forth (for attenuator matching)
- (7) Distortion meter (band pass filter)
- (8) Torque gauge (cassette)
For adjusting the torque related to CTG-N, TW211, TW2121, TW2231 and TW2241
- (9) Wow flatter meter
- (10) Frequency counter
- (11) M300 gauge (Gauge M300)
- (12) Band pass filter

2.Setting of the respective switches and volume knobs

Dolby NR switch	: OFF
Reverse mode	: ON
Power supply switch	: ON

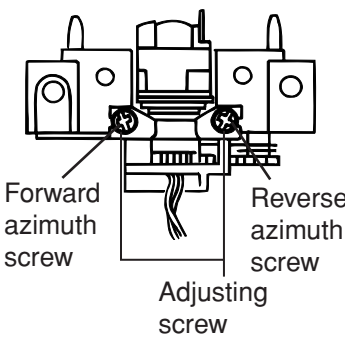
3.Arrangement of adjusting positions



■Procedures for adjusting the mechanism section

Caution for Changing the Head

Remove the screw provided from right above the head. At this time, peel the screw locks around the head by using a sharp-pointed device. Moreover, use the screw driver matching the corresponding screw.

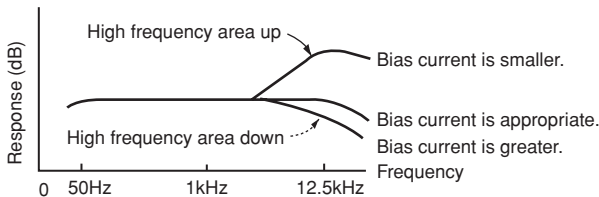
	Items	Adjusting position	Adjusting position	Reference value	Remarks
1	Adjustment of head azimuth	1. Connect the voltmeter to the [LINE OUT] terminal. 2. Play the test tape VT705 (12.5kHz). 3. Adjust the head azimuth screws so that the phase difference between both the forward and reverse channels becomes maximum and the output of both of the channels becomes maximum.	Forward and reverse azimuth screws	Maximum output (within -1dB)	 <p>Forward azimuth screw</p> <p>Reverse azimuth screw</p> <p>Adjusting screw</p>
2	Adjustment of motor speed	1. Connect the frequency counter to the [LINE OUT] terminal. 2. Play the test tape VT712. 3. With VR671, adjust the counter reading to 3,000Hz.	VR671	$3000 \pm 10\text{Hz}$	
3	Confirmation of wow flutter	1. Connect the wow flutter meter to the [LINE OUT] terminal. 2. Play the test tape VT712 (3kHz). 3. Confirm that the wow flutter value is within 0.18% (JIS WTD).		0.18% or less (JID WTD)	
4	Confirmation of playing torque	1. Confirm the playing torque by using the torque test tape (TW2131 [FWD]) or the CTG-N gauge.		26~75 g/cm	
5	Forward feeding/reversing torque	1. Confirm the forward feeding/reversing torque by using the gauge as mentioned above or using the test tapes (TW2231 [FWD]/TW2241 [REV]).		70~170 g/cm (both FF/REW)	

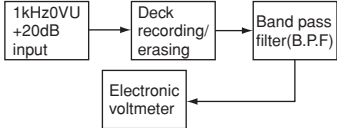
■ Procedures for adjusting the electrical circuit

The following adjustments should be performed after adjusting the tape traveling and head angles.

- The sequence of adjustment should in principle be according to the following order of description.
- The adjustment items denoted by asterisk should be performed whenever the head has been changed.

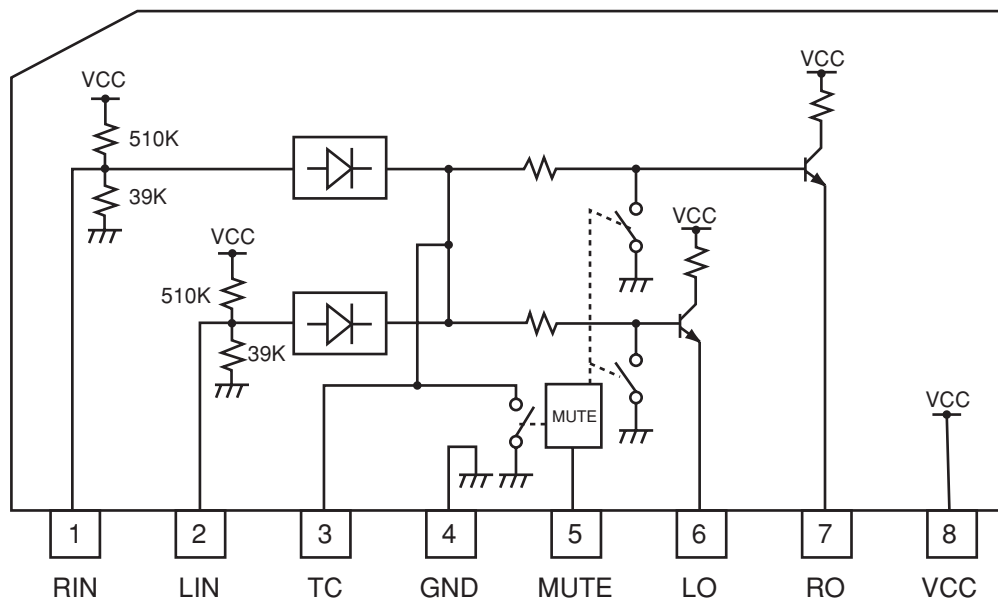
[0dBs = 0.775V]

	Items	Adjusting and confirmation methods frequency level deviation of output up and down values			
1	Confirmation of Dolby circuit recording (Recording mode)			Frequency level	Deviation of output up and down values
		Recording Dolby B	Input:[Line IN] (-8dBs) Measuring points:Pin 8 of IC635 and pin 2 of CN641 Reference level at measuring points 400Hz -8dBs (=Cal. level)	1kHz Cal-40dB	+5.7dB 2dB
				5kHz Cal-20dB	+3.5dB 1.5dB
				1kHz Cal 0dB	0dB +0.5/-1 dB
	Items	Adjusting position	Adjusting position	Reference value	Remarks
*2	Adjustment of playing level	While playing the test tape VT724 (1kHz), adjust the CN641 output to -25.5dBs with VR611 and VR621. (The L - R channel output difference should be within 0.5dB).	L:VR611 R:VR621	-25.5dBs ±0.5dB (L-R difference: within 0.5dB)	Adjust the playing level since this level will be changed whenever the head has been changed. At this time, the impedance of electronic voltmeter should be 100 Ω or more.
*3	Adjustment of playing equalizer	While playing the test tape TMT7063 (1kHz and 12.5kHz), adjust the test point TP (CN641) output to the reference values at 1kHz and 12.5kHz outputs with VR612 (Lch) and VR622 (Rch).	L:VR612 R:VR622	With reference to 1kHz, the deviation of 12.5kHz should be 1.5 ±0.5dB	NR : OFF By using the test tape TMT7063 (12.5/1kHz/63Hz), confirm that 63Hz:+2dB ±3dB with reference to 1kHz.
4	Reference value of recording input	Confirm that the input level at the test point TP (CN641) terminal is -25.5dB when 1kHz -28.2dBs has been applied to the line input.		Output level: -25.5dBs ±1dB	
5	Adjustment of bias frequency	Connect the frequency counter to the test points TP631 and TP632 and adjust the bias frequency to 100kHz with	L6351	100kHz +9kHz -1kHz	Tape : chrome Mode : recording
*6	Adjustment of recording and playing frequency characteristics	Record 1kHz/12.5kHz with a normal tape, and adjust the deviation at 12.5kHz to +0 ± 0.5dB with reference to 1kHz by means of VR613 (Lch) and VR623 (Rch).	L:VR613 R:VR623	Normal tape: 0 ±0.5dB Chrome tape: 0 ±4dB	Ref-20dB : [Value reduced by as much as -20dB from the reference input value] ÷ 28.2dB The bias value in the case of chromium tape will be set by shifting the voltage with reference to that in the case of normal tape. Unless the bias current has been adjusted correctly, the recording characteristics will become as indicated in the diagram on the left hand side.
					

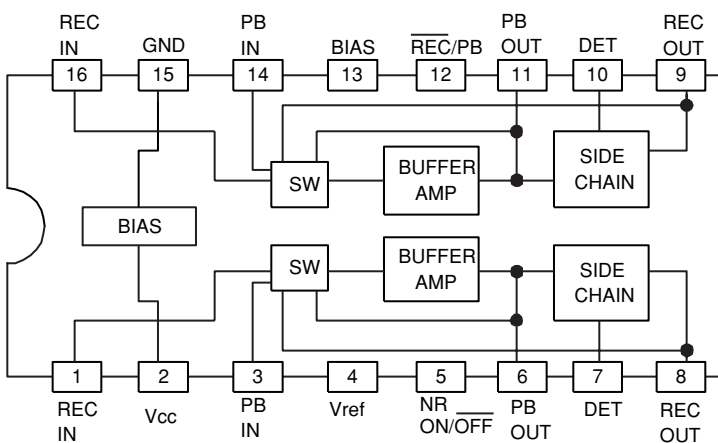
	Items	Adjusting position	Adjusting position	Reference value	Remarks
*7	Adjustment of recording and playing sensitivity	1. While applying 1kHz -28.8dB to the line input terminal, confirm that the sensitivity level at the test point TP_____ is 0dBs. 2. While recording and playing back the above, adjust the recording signal current with VR614 (Lch) and VR624 (Rch) so that the sensitivity level becomes -25.5dBs.	L:VR614 R:VR624	Normal tape: -25.5dBs ± 0.5 dB Chrome tape: -25.5dBs ± 2 dB	The left and right level difference of both normal and chrome tape should be within 0.5dB. The sensitivity level should be adjusted with normal tape. NR:OFF Tape:Normal tape
8	Confirmation of recording and playing distortion rate	1. Record the test tapes _____ at 1kHz and reference input. 2. Check the output with a distortion meter while playing back the above test tapes, and confirm that the respective distortion rates comply with the standard value.		Normal tape: 3.0% or less Chrome tape: 3.0% or less	Confirm the distortion rate after adjusting the bias current and recording level.
9	Confirmation of recording and playing S/N ratio	1. Halfway during recording at 1kHz and reference input, sample the input and perform non-signal recording. 2. While playing back the above, measure the difference between the reference recording output and non-signal recording output with an electronic voltmeter, and confirm that the measurement complies with the standard value.		Normal tape: 38dB or over Chrome tape: 40dB or over	
10	Confirmation of erasing rate	1. Apply 400Hz signal (Ref. + 10dB) from the [LINE IN] terminal. 2. After rewinding the above, erase a part of the recorded portion. 3. Measure the ratio of the erased portion to the recorded portion with an electronic voltmeter.		55dB or over	For measuring the erasing ratio, connect a band pass filter(B.P.F) between the electronic voltmeter on the deck. 
11	Confirmation of music scanning action	1. After loading the test tape TMT6447, press the [PLAY] and [FF] buttons or [REW] button. After rewinding the tape, perform music scanning and execute the [PLAY] action. 2. After loading the test tape TMT6447, press the [PLAY] and [FF] buttons or [REW] button. In this case, be sure not to perform music scanning at the beginning of tape winding.			
12	Confirmation of NR effect	While short-circuiting the [LINE IN] terminal input, 1. Confirm the difference of noise level at self-recording and playing when the Dolby is off and Dolby B is on.		8.5dB or over	In this case, use the CCIR ARM filter.

Description of major ICs

■BA8221AN (IC634) : ALC

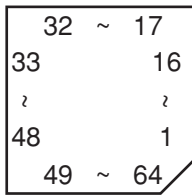


■HA12136A (IC635) : Noise reduction amplifire



■MN171601AJABF (IC671) : System control

1.Pin layout



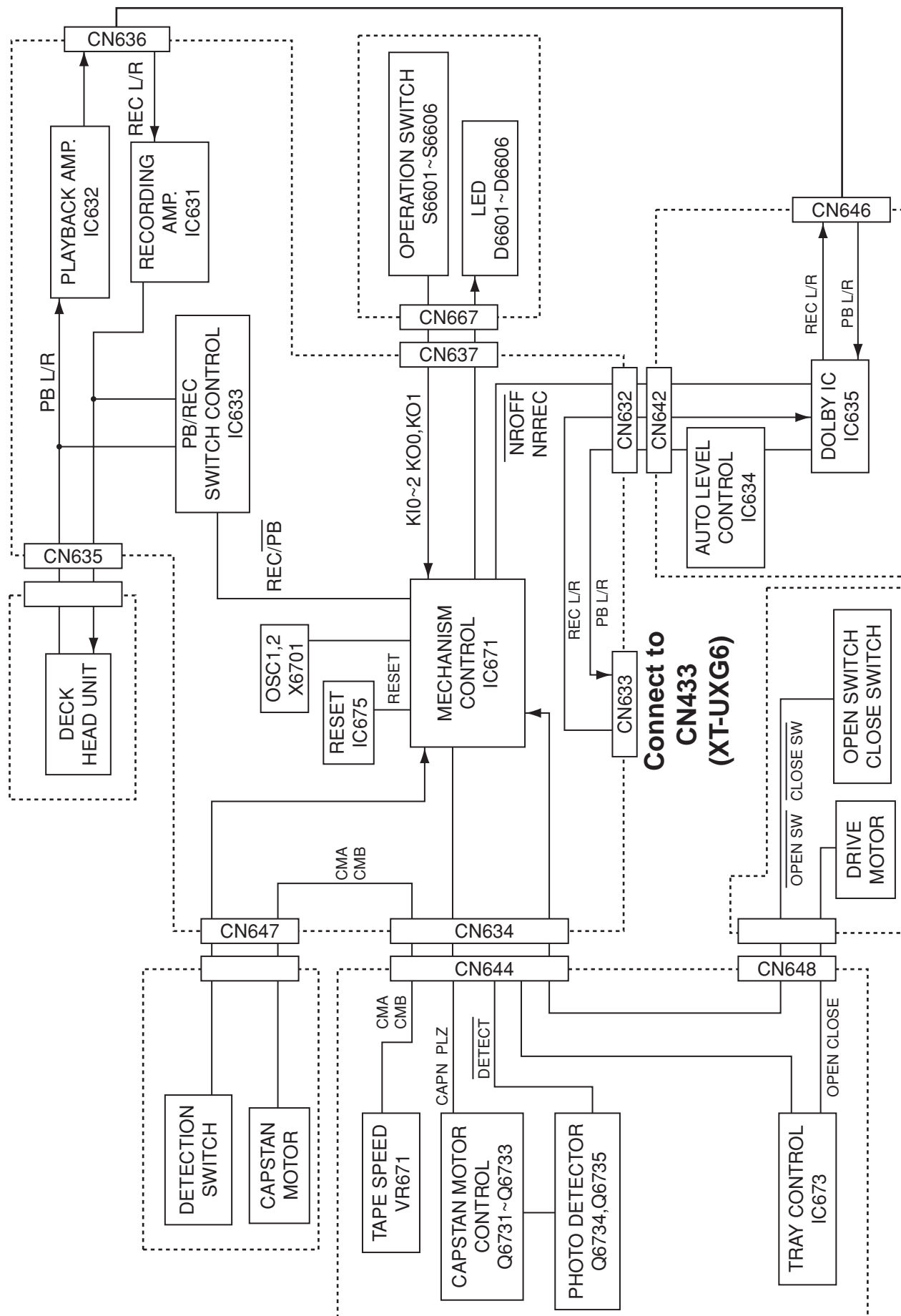
2.Key matrix

	KEYO0	KEYO1
KEYI0	REC PAUSE	STOP
KEYI1	REVERSE	< >
KEYI2	DOLBY B NR	OPEN/CLOSE

3.Pin function

Pin No.	Symbol	I/O	Function
1	REC/PB	O	Switching to R/P head
2~7	NC	-	Connect to GND
8	MSI	I	Detecting to music scan
9	NC	-	Non connect
10	Cro2/NORM	O	Detecting to Chrome
11	BIAS	O	Bias output
12	NORM	O	Switching to playback equalizer (H=70, L=120 μ)
13	PBMUTE	O	Playback mute
14	NC	-	Non connect
15	NROFF	O	Switching to ON/OFF for DOLBY (H=OFF, L=ON)
16	NRREC	O	Switching to REC/PB for used DOLBY (H=PB, L=REC)
17	R.MUTE	O	Recording mute
18	BLUE	O	Indicator control output
19	REC	O	Indicator control output (REC)
20	REVPLAY	O	Indicator control output (REVERSE Play)
21	FWDPLAY	O	Indicator control output (FORWARD Play)
22	REVERSE	O	Indicator control output (REVERSE)
23	DOLBYB	O	Indicator control output (DOLBY B NR)
24~26		-	Non connect
27,28	KO1,KO0	O	Key matrix output
29		-	Non connect
30~32	KI2~0	I	Key matrix input
33	NC	-	Non connect
34	PLZ	O	Plunger ON
35	CAPN	O	Capstan motor ON
36,37	NC	-	Non connect
38	REV-RSW	I	Detect reverse recording (Recording prohibition)
39		-	Non connect
40	PACKSW	I	Tape detecting(tape in use:L)(tape ON:L)Tape detect yes or not
41	DETECT	I	Detecting to reel pulse
42	CroMETALSW	I	Detecting to chrome
43	PLAY	I	Detecting to play
44	FWD-RSW	I	(Recordable:L) Detecting to FWD to recording (recording prohibition)
45,46	NC	-	Non connect
47	OPEN	O	Cassette tray : open
48	CLOSE	O	Cassette tray : close
49	CLOSESW	I	Detecting for cassette tray : close
50	OPENSW	I	Detecting for cassette tray : open
51	RST	I	CPU Reset input
52	X1	-	Connect to GND
53	X2	-	Non connect
54	VSS	-	Connect to GND
55,56	OSC2,1	I/O	Oscillation terminal
57	VDD	-	Power supply
58~61	NC	-	Connect to GND
62,63	DCSO/I	I/O	DCS input/output
64	NC	-	Connect to GND

Block diagram (TD-UXG6)



Disassembly method (SP-UXG6)

■Removing the ornament panel assembly

1. Remove the saran board from the speaker box.
(Saran board can be detached by pulling the side of saran board forward.) (See Fig.1)
2. A minus driver is inserted in the space between the ornament panel and the cabinet in the bottom part of the main body little by little. (See Fig.4)
3. A minus driver is inserted in a surrounding round of the ornament panel little by little, and the ornament panel is removed. (See Fig.2)

*The wound adheres when the driver is moved up and down with the driver inserted, and inserts in the direction where the driver was inserted.

*It is easy to remove when the driver is chiefly inserted in the place because there is a part which the convex part of the ornament panel has inserted in the concave part on the cabinet.

*The wound must not adhere by using the cloth etc. when it is not easy to remove.

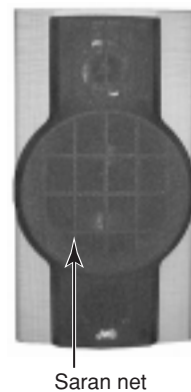


Fig.1

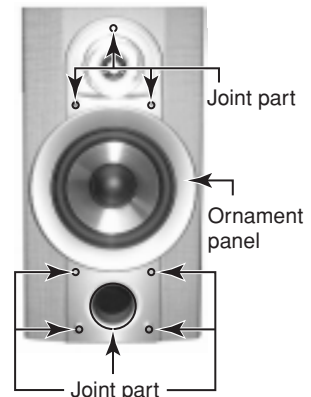


Fig.2

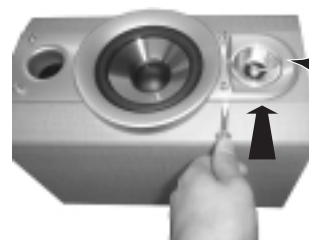


Fig.3

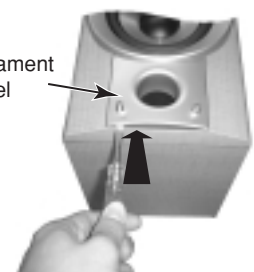


Fig.4

■Removing the tweeter unit (See Fig.5)

1. The ornament panel is removed
2. Two plug wires (black and yellow) connected with the tweeter unit are pulled out.
3. Remove the two screws A attaching the tweeter unit.

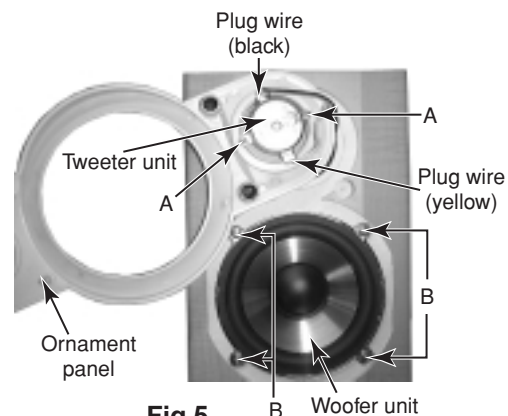


Fig.5

■Removing the woofer unit

1. The ornament panel is removed.
2. Remove the four screws B attaching the woofer unit. (See Fig.5)
3. Two plug wires (red and black/yellow) connected with the woofer unit are pulled out. (See Fig.6)

As parts for the repair of this speaker system, it is only the speaker box assemblies. It is not possible to supply with each part unit.

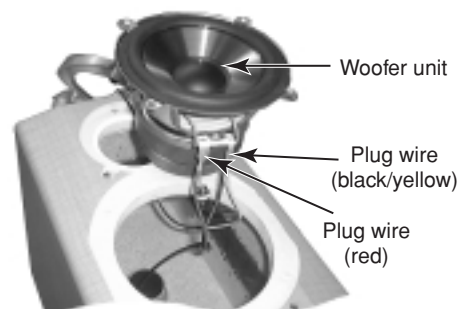


Fig.6

Standard schematic diagrams

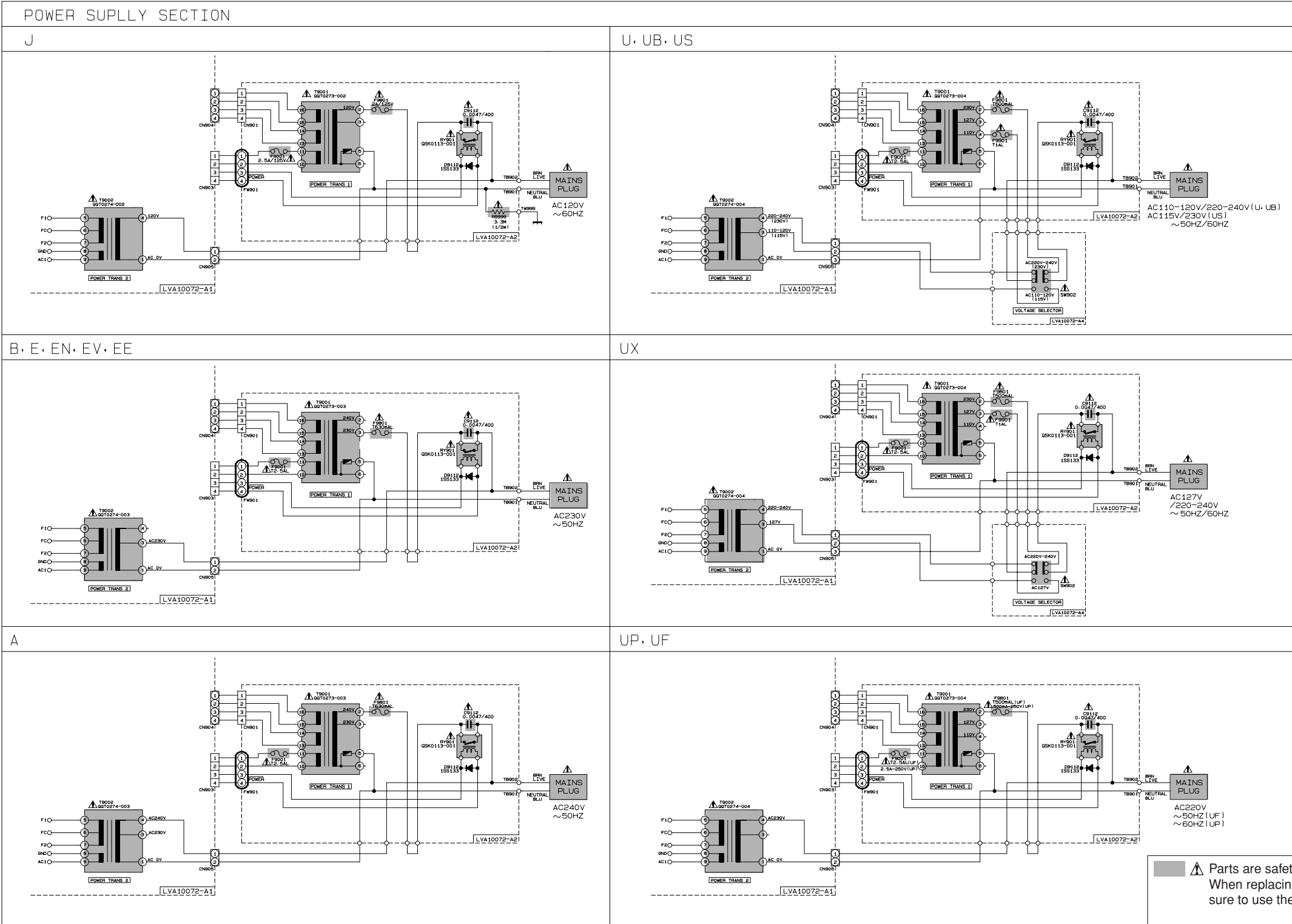
Power transformer section (AX-UXG6)

EXPLANATION OF OVERALL OF SCHEMA
MODEL UX-G6, FS-G6

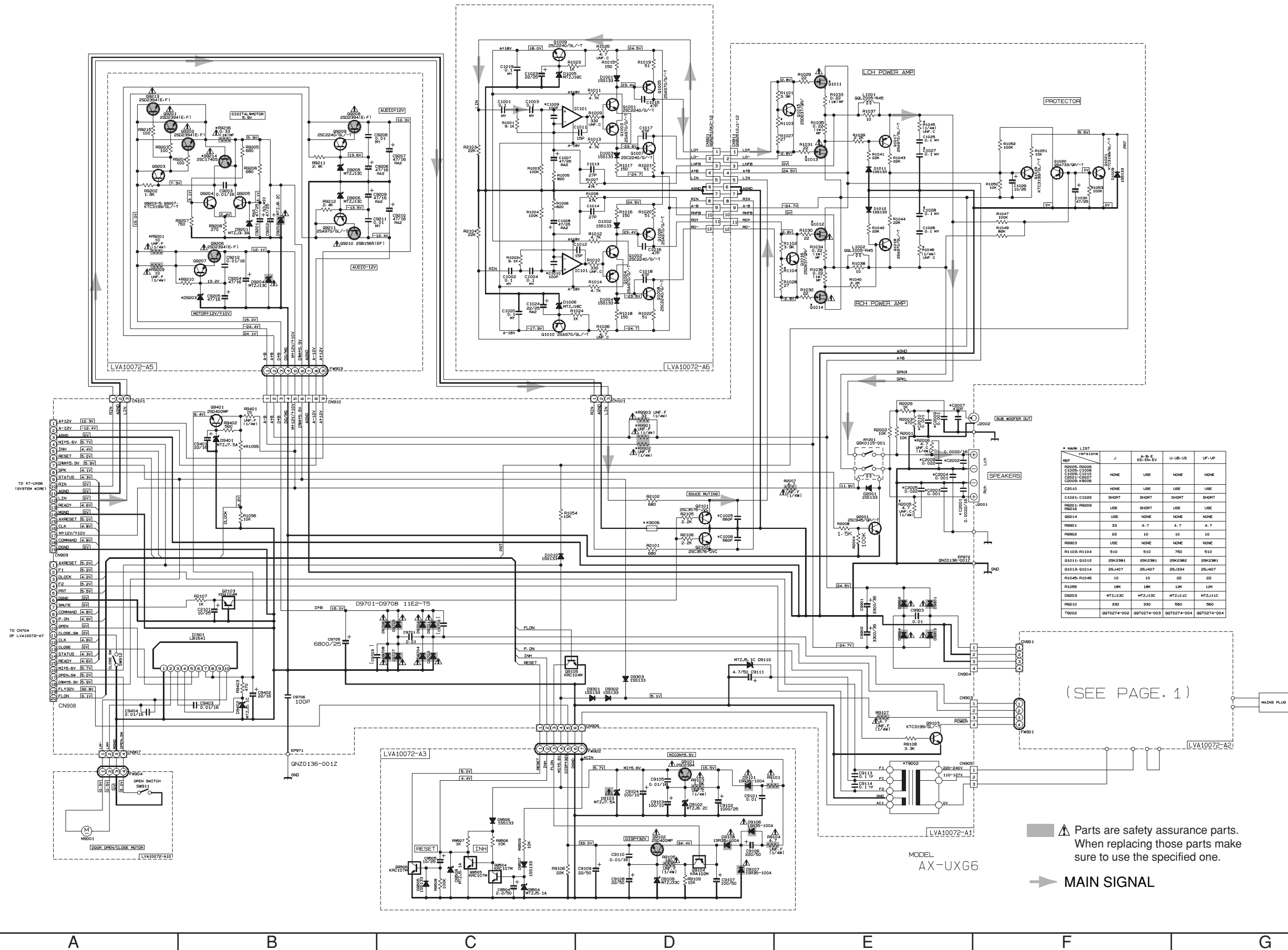
SHEET No.	MODEL No.	CIRCUITS DESCRIPTION
1/3	AX-UXG6	PRIMARY WITH TRANSFORMER
2/3	AX-UXG6	AUDIO POWER AMPLIFIRE/DC REGULATORS
3/3	AX-UXG6	USER CONTROL KEYS/SYSTEM CONTROL LSI/FL DISPLAY

VERSION CODES
J : U.S.A./CANADA
A : AUSTRALIA
B : U.K.
E : CONTINENTAL EUROPE
EN : NORDIC COUNTRIES
EV : EASTERN EUROPE
EE : RUSSIA
UB : HONGKONG
US : SINGAPORE
UP : KOREA
UX : SAUDI-ARABIA
U : UNIVERSAL EXCEPT ALL OF ABOVE

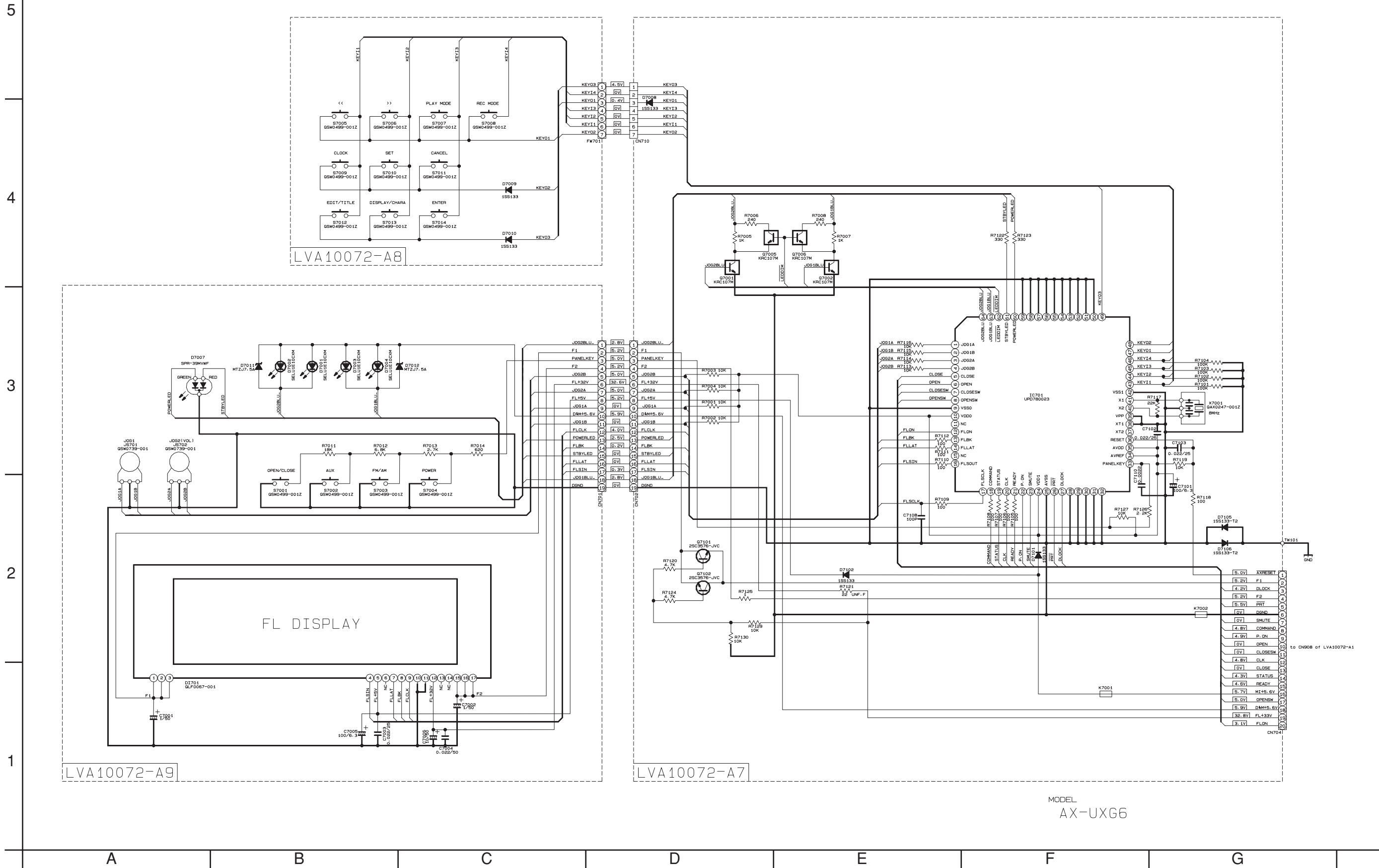
NOTE
MARK(*) IS TO SHOW DEVIATION IN VERSION
DETAILS ARE EXPLAINED NEAR MARK.



Main AMP. and power supply section (AX-UXG6)

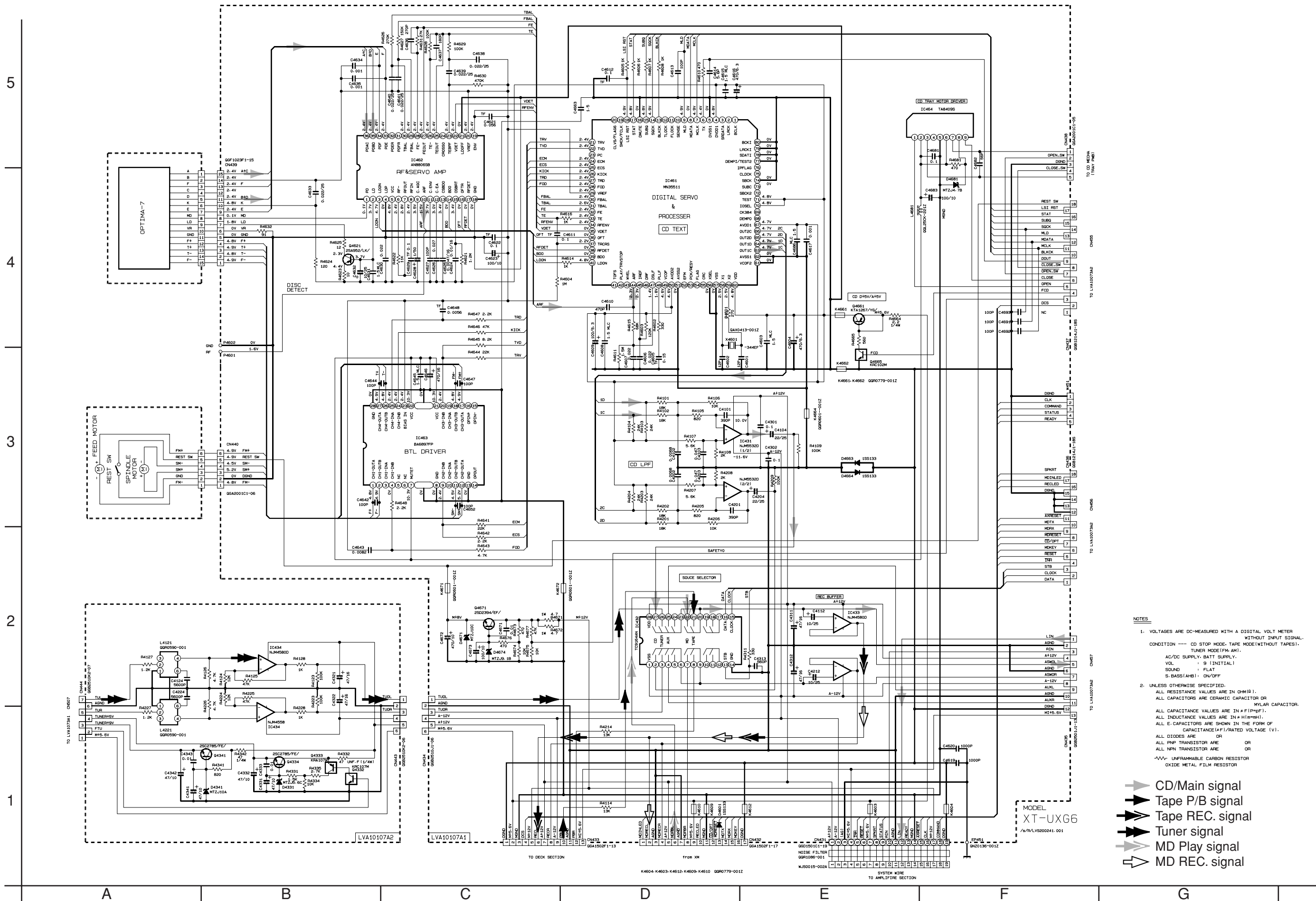


■FL Display and micom section (AX-UXG6)





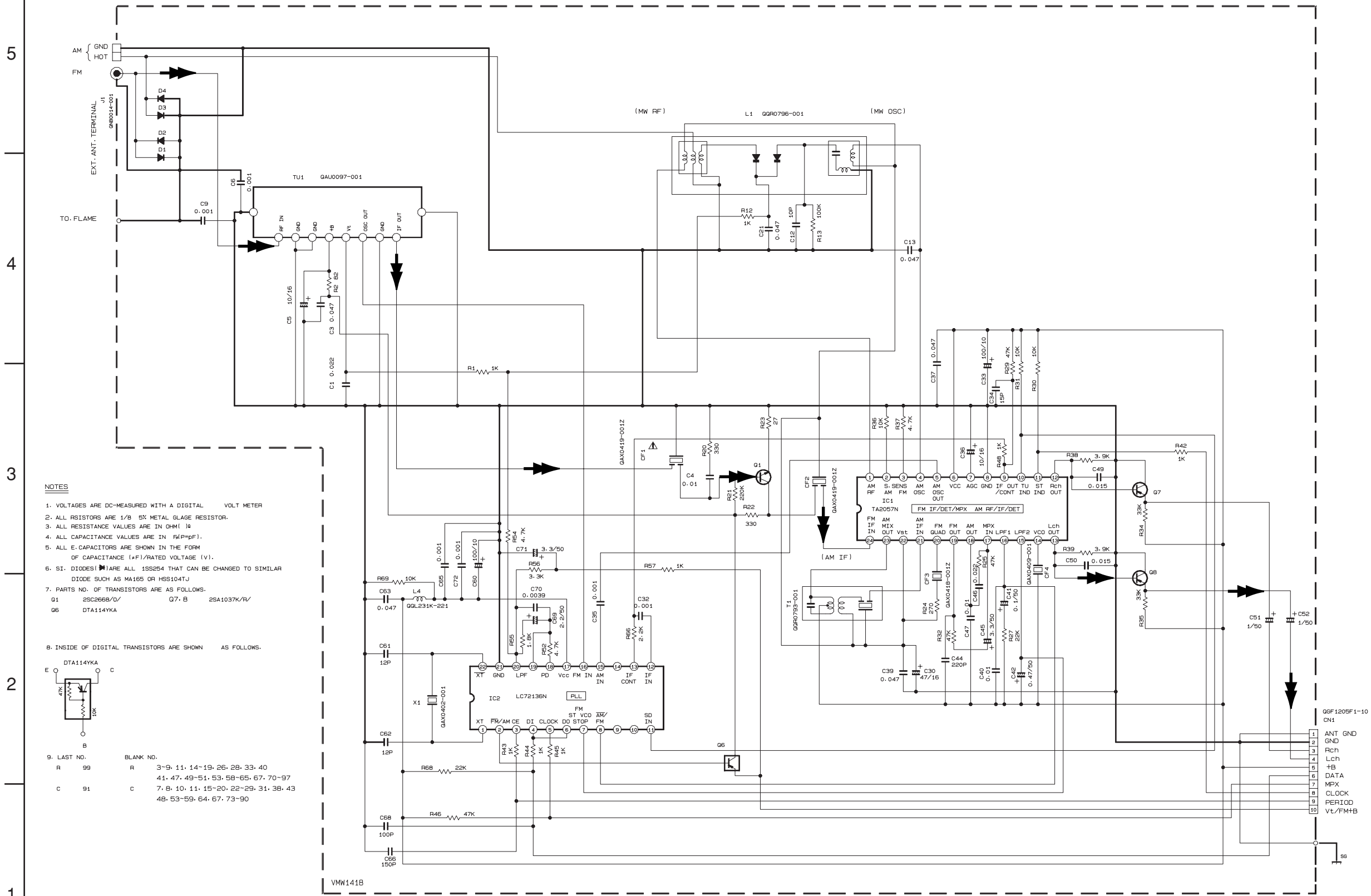
■CD Servo control section (XT-UXG6)



- NOTES
- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
CONDITION --- CD STOP MODE-TAPE MODE(WITHOUT TAPES).
TUNER MODE(FM-AM).
AC/DC SUPPLY, BATT SUPPLY.
VOL : 9 (INITIAL)
SOUND : FLAT
S-BASS(AHB) : ON/OFF
 - UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN P(F)P(PF).
ALL INDUCTANCE VALUES ARE IN H(MH)M(M).
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(F)/RATED VOLTAGE (V).
ALL DIODES ARE OR
ALL PNP TRANSISTOR ARE OR
ALL NPN TRANSISTOR ARE OR
~ UNFRAMABLE CARBON RESISTOR
OXIDE METAL FILM RESISTOR

- MODEL XT-UXG6
S/R/VLS000041.001
- CD/Main signal
 - Tape P/B signal
 - Tape REC. signal
 - Tuner signal
 - MD Play signal
 - MD REC. signal

■Tuner section (XT-UXG6 except Ver.J)

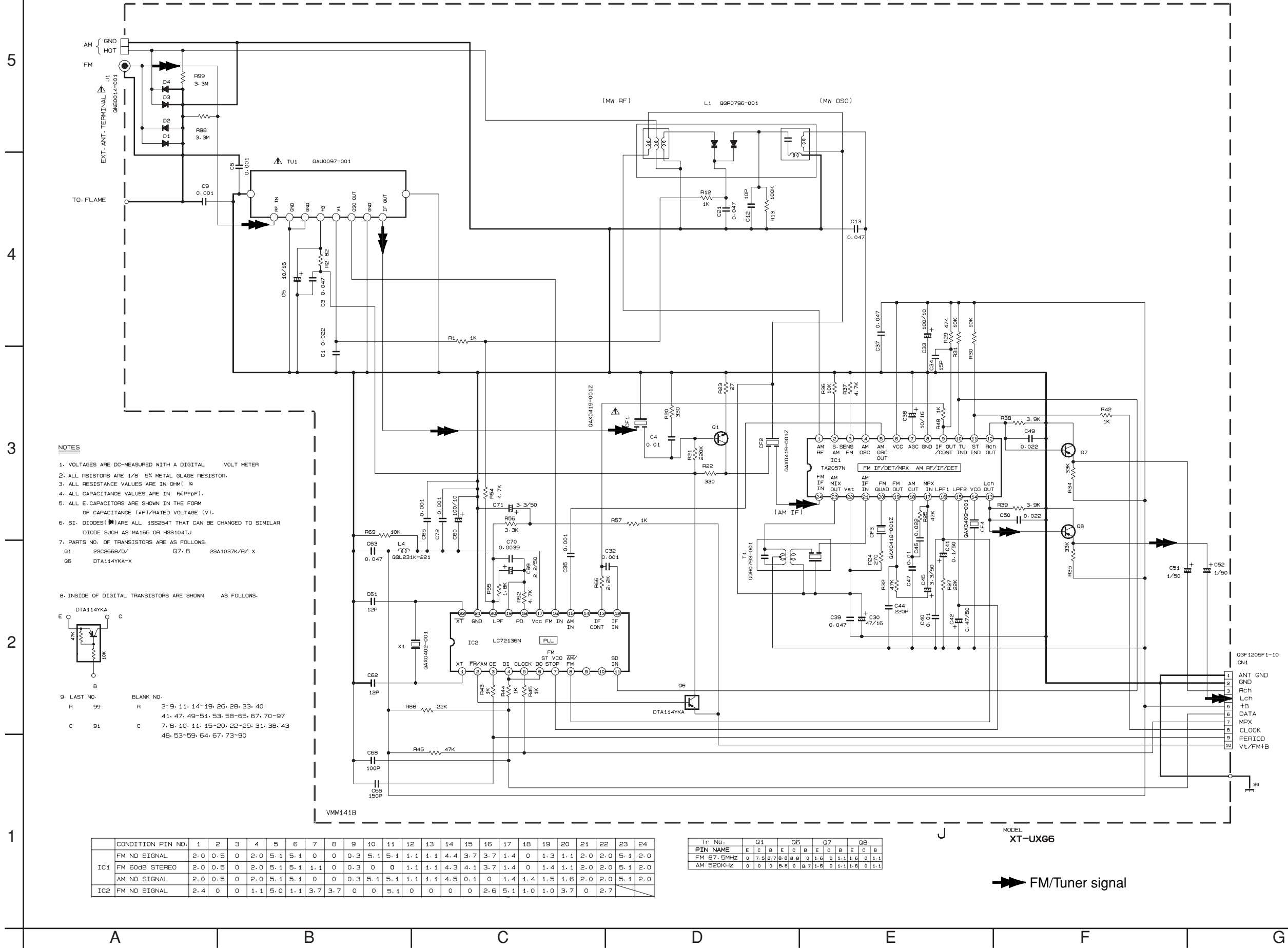


CONDITION	PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC1	FM NO SIGNAL	2.0	0.5	0	2.0	5.1	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.4	3.7	3.7	1.4	0	1.3	1.1	2.0	2.0	5.1	2.0
IC1	FM 60dB STEREO	2.0	0.5	0	2.0	5.1	5.1	1.1	0	0.3	0	0	1.1	1.1	4.3	4.1	3.7	1.4	0	1.4	1.1	2.0	2.0	5.1	2.0
IC1	AM NO SIGNAL	2.0	0.5	0	2.0	5.1	5.1	0	0	0.3	5.1	5.1	1.1	1.1	4.5	0.1	0	1.4	1.4	1.5	1.6	2.0	2.0	5.1	2.0
IC2	FM NO SIGNAL	2.4	0	0	1.1	5.0	1.1	3.7	3.7	0	0	5.1	0	0	0	0	2.6	5.1	1.0	1.0	3.7	0	2.7		

Tr No.	Q1	Q6	Q7	Q8
PIN NAME	E C B	E C B	E C B	E C B
FM 87.5MHZ	0 7.5 0.7	8.8 0 1.6	0 1.1 1.6	0 1.1 1.1
AM 520KHZ	0 0 0	8.8 0 8.7	1.6 0 1.1	1.6 0 1.1

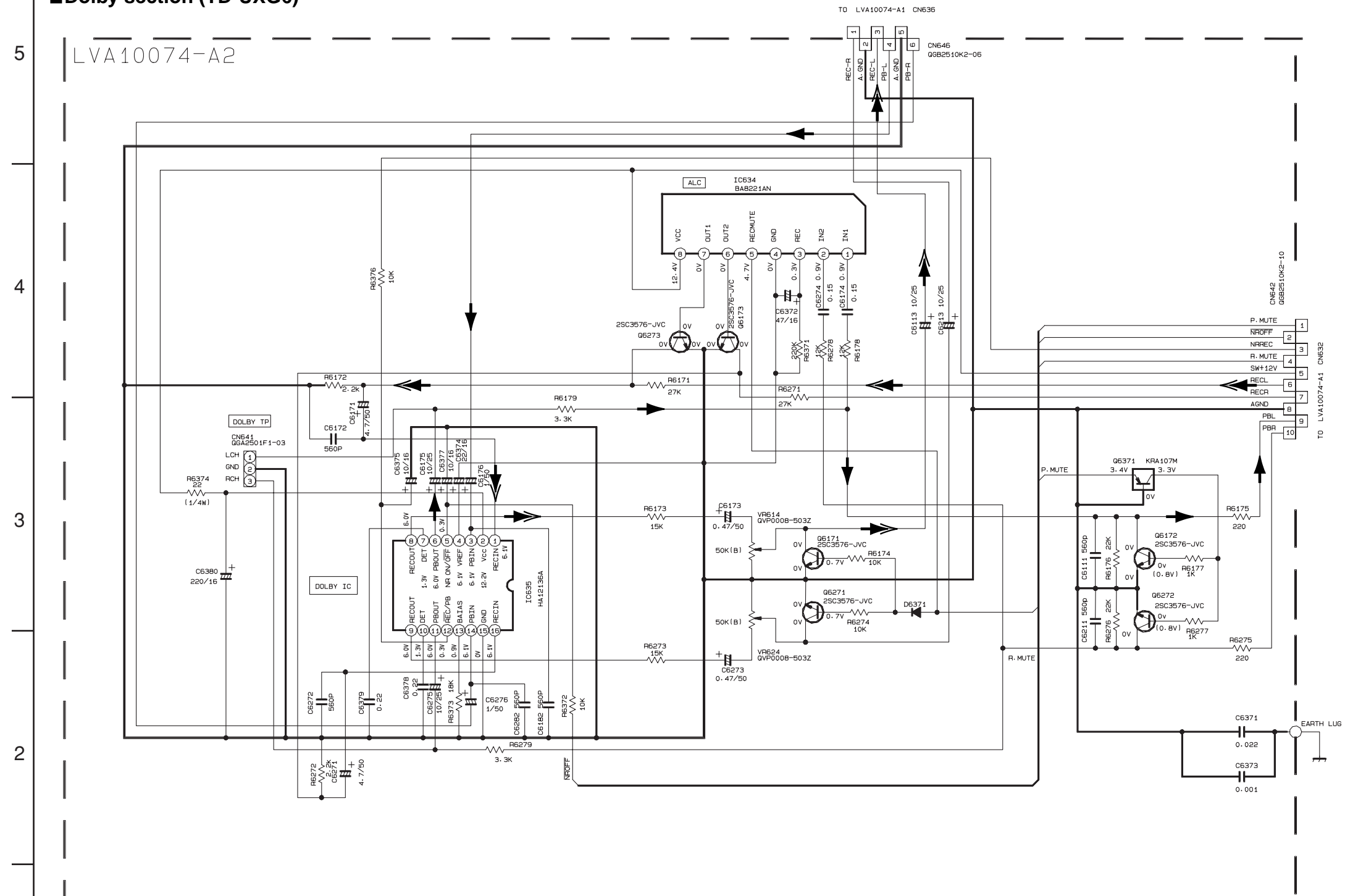
MODEL
XT-UXG6
U/UB/US/UX/UP/UF
FM/Tuner signal

■Tuner section (XT-UXG6 only Ver.J)





■Dolby section (TD-UXG6)



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
CONDITION --- MODE : REC

```
MODE      : REC
TAPE      : METAL
NR        : OFF
REV MODE  : ON
```

2. UNLESS OTHERWISE SPECIFIED.

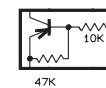
```

ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR. OR 50V MYLAR CAPACITOR
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL DIODES ARE 1SS133

```

 FUSIBLE RESISTOR

 PP POLYPROPYLENE CAPACITOR
 MY MYLAR CAPACITOR



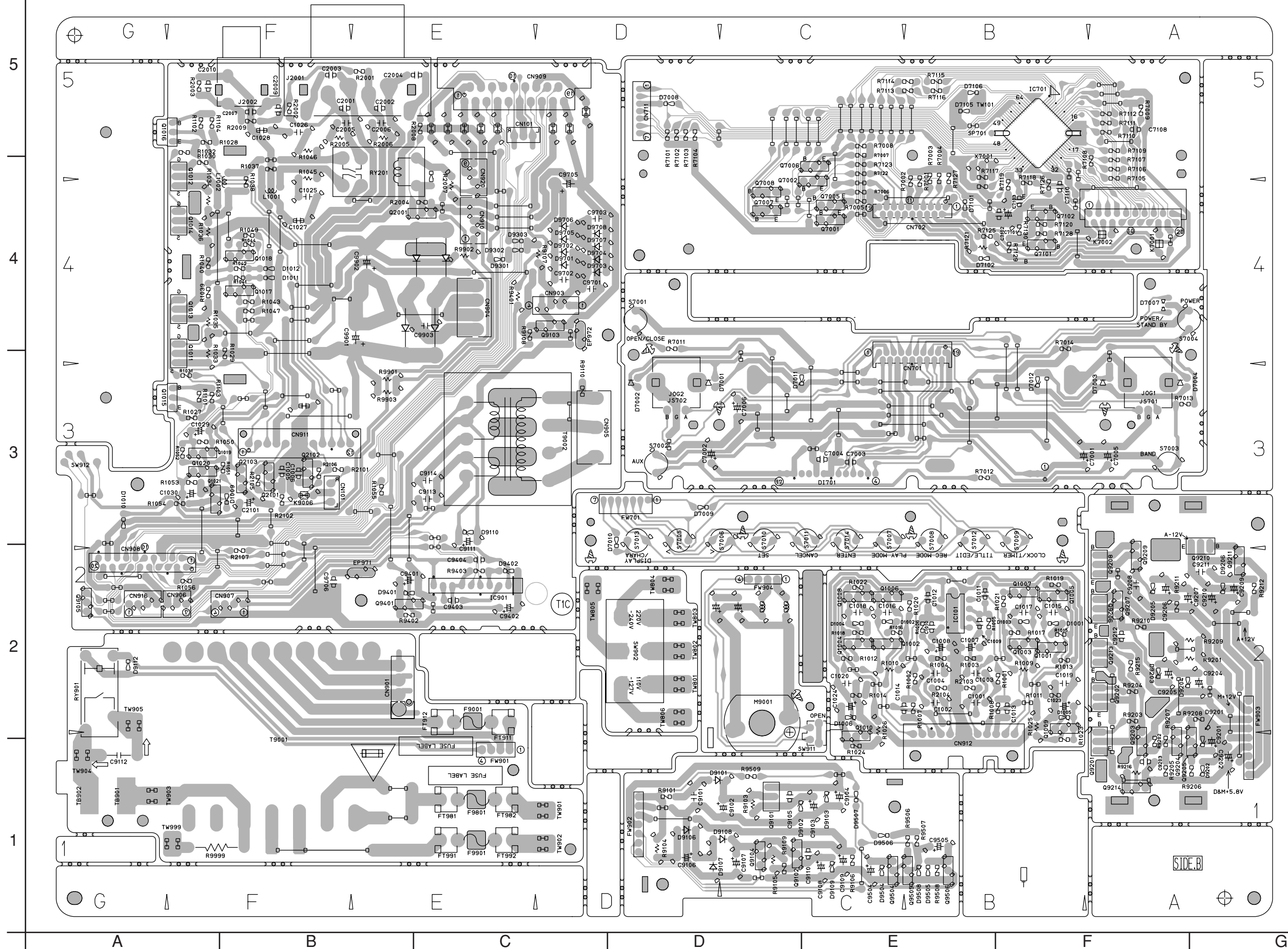
KRA107M

MODEL TD-UXG6

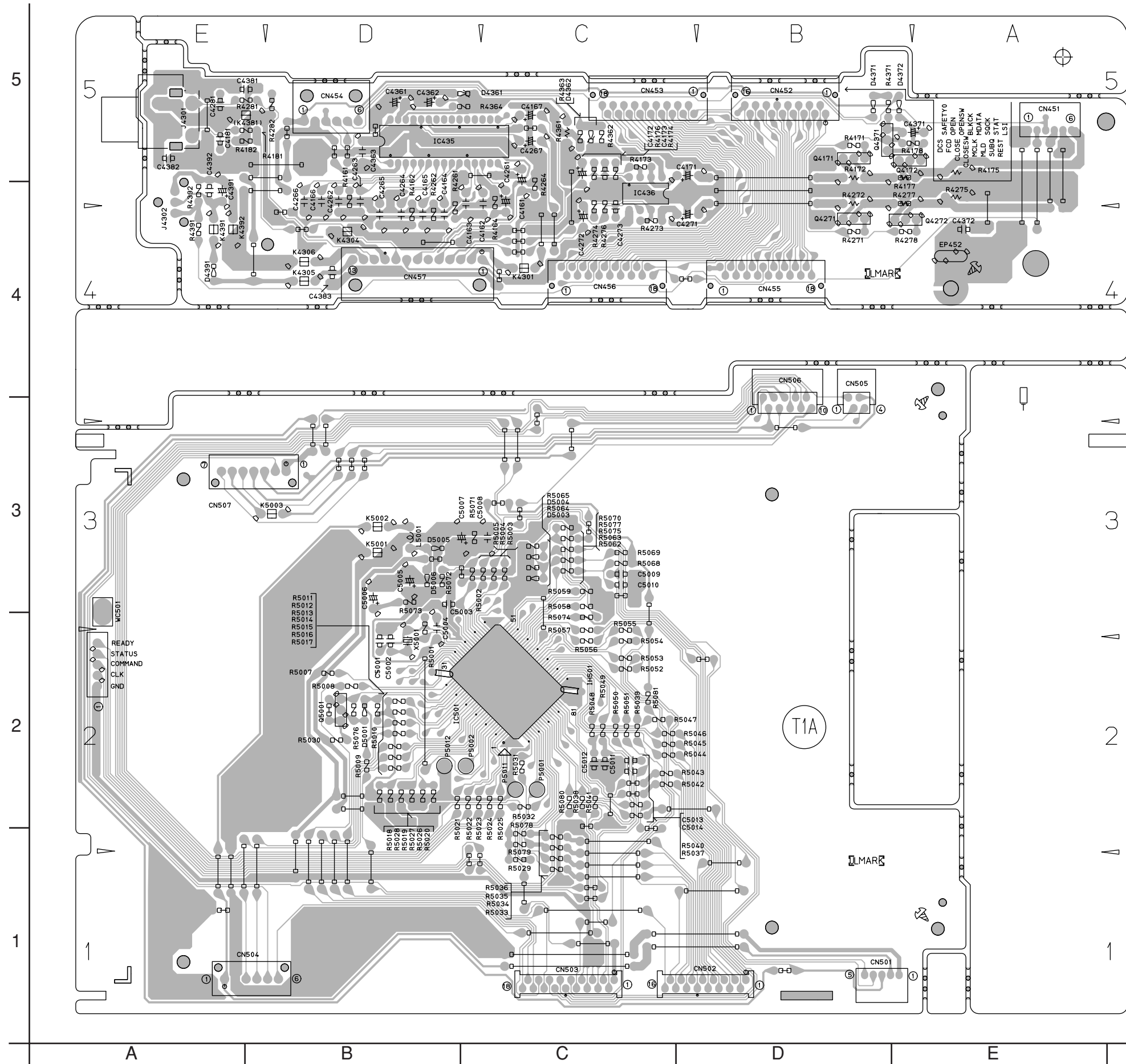
➡ Tape playback signal
➡➡ Tape recording signal

Printed circuit boards

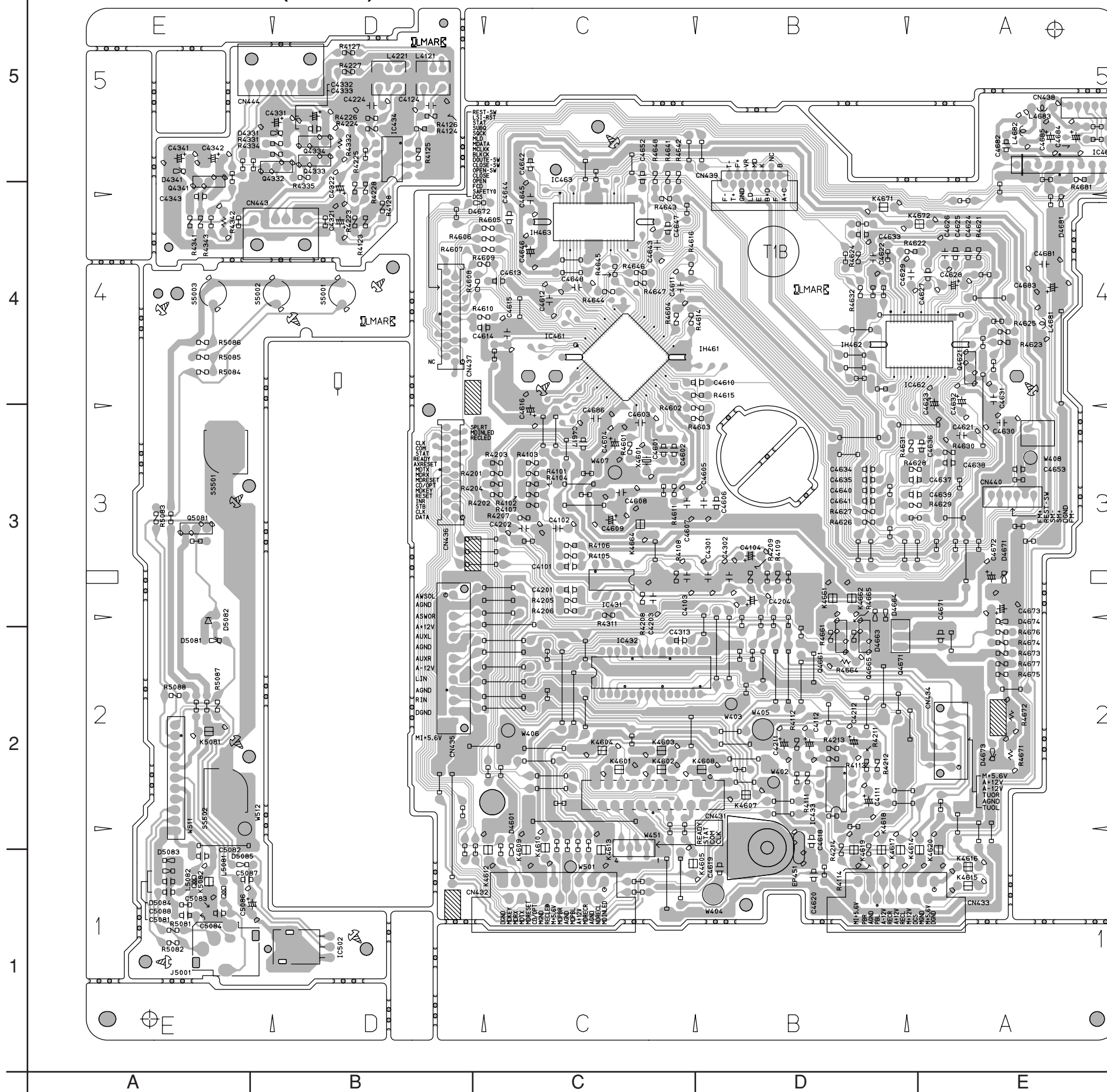
■System control & Main amplifier board (AX-UXG6)

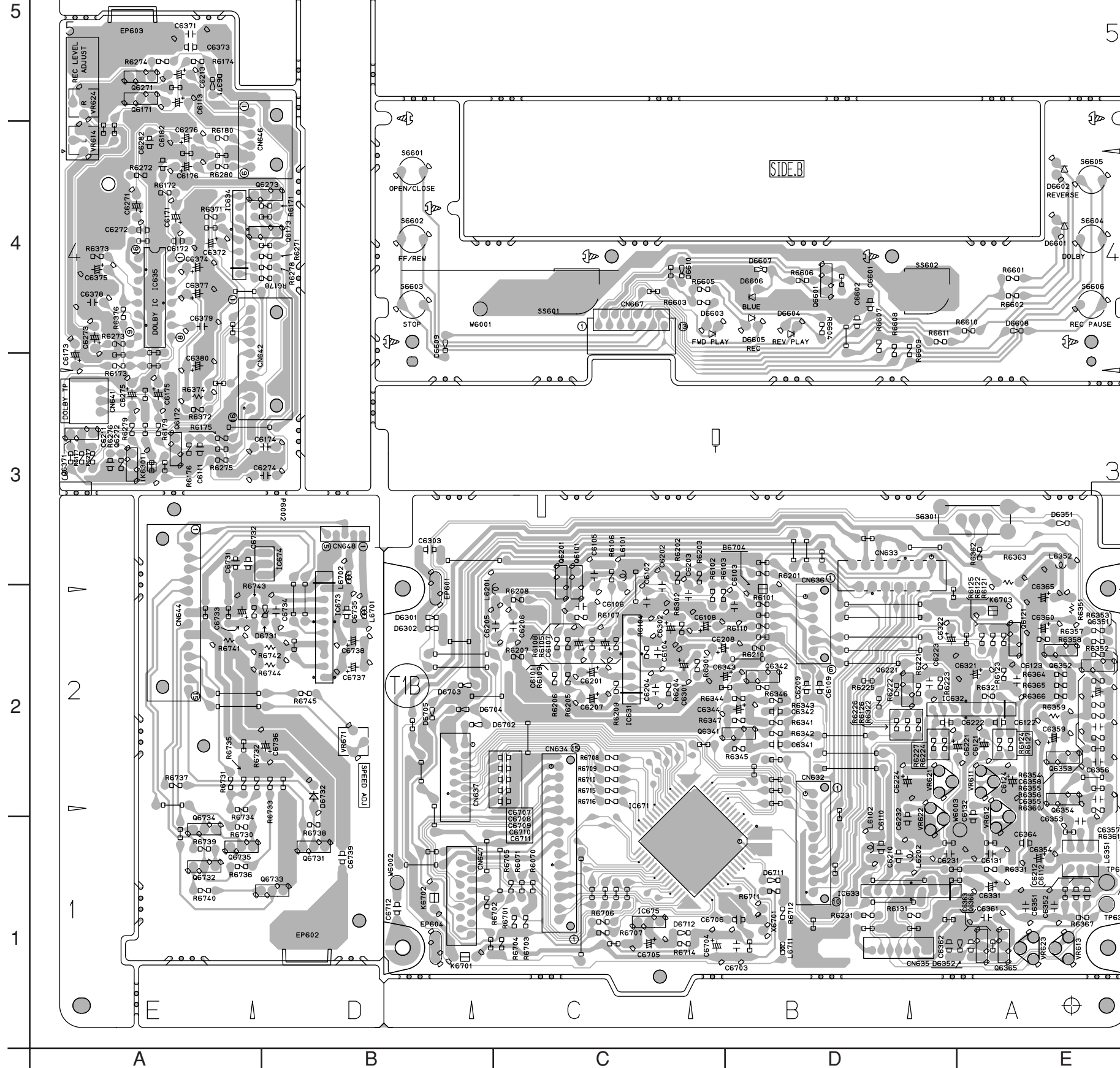


■ System control & Analog IN / digital OUT board (XT-UXG6)



■CD Servo & Main board (XT-UXG6)





■ Tuner board (TD-UXG6)

